

The Royal London Ophthalmic Hospital Reports.

VOL. XIV. PART I.

OCTOBER, 1895.

DESCRIPTIVE CATALOGUE OF SPECIMENS IN THE
HOSPITAL MUSEUM (*continued*).

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SERIES IV.—TUMOURS.

Subseries (A).—Starting in the Orbit.

THE orbit contains a number of structures of such widely different natures, that the characters of the tumours starting in it are very various. Those which begin in the eyeball or optic nerve, and only secondarily extend into the orbit, are not included in this section, but are placed under those of the tissues in which they originate.

The cystic tumours of the orbit, hydatids and dermoids, are rare. Growths may arise from the lymphatic or vascular channels; the latter, which are pulsatile, may be plexiform or cavernous in structure. No specimen of any of the above-mentioned growths are contained in the museum. There is one of a primary sarcoma of the lacrymal gland (No. 1); adenomatous and carcinomatous tumours may also arise in it.

Tumours originating from the bony walls of the orbit may be innocent or malignant, osteomata (Nos. 2 and 3) or osteo-sarcomata (No. 4). The osteomata are usually extremely hard, having an ivory consistency, and present microscopically the characters typical of true bone. It is

very difficult sometimes to say whether they originated in the orbit itself or in one of the sinuses around. The frontal sinus is a frequent seat for them to commence in (No. 3). When originating in a sinus, its walls become expanded and are ultimately burst through by the gradual enlargement of the growth; in the case of the frontal sinus, the cerebral and orbital cavities thus become involved (No. 3).

Osteomata originating on the inner wall of the orbit are often pedunculated, and are then more suitable for operation than when sessile, as the neck sometimes breaks through quite easily (No. 2); it has even been known to do so spontaneously.

By far the commonest form of tumour met with in the orbit is sarcoma. At the stage in which the specimens are usually obtained it is difficult to locate the structure in which they originated. Doubtless they may start in any of its fibrous tissues. Those coming from the periosteum sometimes have small pieces of more or less well developed bone scattered throughout them (No. 4). Many of them are extremely fibrous in structure, and were formerly classed as malignant fibromata (Nos. 5 and 7). The muscles surrounding the eye are often the seat of the growth or are secondarily involved, each individual muscle fibre becoming isolated by the sarcoma cells (No. 9). One of the earliest symptoms to which a tumour of the orbit gives rise is proptosis. The direction in which the eye is displaced varies with the position of the tumour; when starting near the apex of the orbit, the globe becomes pushed directly forwards (Nos. 6 and 9). The nerve is often affected from pressure in such cases (No. 6), and sometimes the eyeball itself becomes flattened on one side (No. 5).

No. 1.—A portion of a new growth removed from the orbit of a lad, aged 17. Some swelling of his left upper eyelid had been first noticed about two months previous to the removal of

the growth. There was also slight proptosis, which gradually increased. An exploratory incision revealed a tumour in the upper and outer part of the orbit.

The specimen, which is not quite half the whole growth, is a pinkish, firm mass, with greyish streaks running through it. Microscopically it is found to consist mainly of fibrous tissue, and cells which are mostly round; in places, gland tubules precisely similar to those of the lacrimal gland are seen, widely separated from one another by the cells and fibrous tissue of the growth.

(Recorded in the R.L.O.H. Reports, vol. xiii, p. 395.)

No. 2.—A plaster cast of an osteoma which was successfully removed from the orbit. The history of the case is not known. The cast is concave on the surface, which represents that attached to the orbital wall; this has been coloured blue. The greatest length of the cast is 5 cm. Its free surface is nodulated and very irregular.

3. A portion of the left frontal bone with the upper margin of the orbit, and a large bony tumour growing from the frontal sinus. The specimen was removed from a man, aged 25, who died from cerebral meningitis 31 days after an operation for the removal of an ivory exostosis of the roof of the orbit.

His left eyeball was stated to have been prominent for two years, and the protrusion was steadily increasing. A large portion of the bony growth was removed, after a prolonged operation, by means of a powerful Archimedean screw, chisels, and mallet. The orbit was then left about its normal size and shape. The wound healed, and all went well until a month after the operation, when the patient complained of slight pain in his head; his temperature went up, he became unconscious, had some slight convulsive attacks, and died 24 hours after the onset of these symptoms. The growth is a large nodulated mass of exceedingly hard bone. Its orbital surface, from which a portion was removed at the operation, is rough and irregular. On the outer surface the atrophied shell of the plate of the frontal bone is seen arched upwards by the growth which has extended a considerable way into the cranial cavity. About the centre of the inner surface a smooth piece

of bone, the orbital plate of the ethmoid, remains attached to the growth. At the lower and posterior part of the mass is a smooth groove in which the optic nerve lay embedded.

(Recorded in the R.L.O.H. Reports, vol. x, p. 303.)

No. 4.—A tumour which was removed from the left orbit of a man, aged 19. It has been divided into two halves, which are mounted in separate cells. His left eye was first noticed to be prominent five years previous to the operation. The prominence afterwards extended to the eyebrow and upper lid, and increased rapidly during the last 18 months. His general health was good, and there was no history of tumours in his family. The tumour was removed through an incision in the upper lid by the help of a gouge. It was attached to the upper and outer wall of the orbit, and had pushed the eye downwards and inwards without materially affecting his visual power. The growth is irregularly pear-shaped, and measures 42 mm. $\times$ 29 mm. Its weight when fresh was 6 drachms. Its surface, except where it was attached to the roof of the orbit, is covered by a white fibrous membrane. The surface of attachment is rough, like broken cancellated bone, and about 25 mm. wide. The cut surface discloses a partly calcified porous structure, dark red in the recent state, and the open mouths of vascular channels can be seen in it with the naked eye. Microscopically it is stated to be composed of partly ossified fibrous tissue, in which the vascular canals (Haversian canals) radiate from its base of attachment towards its surface.

(Recorded in R.L.O.H. Reports, vol. iii, p. 80.)

No. 5.—A large tumour and half the right eye removed from the orbit of a man, aged 45. They are mounted in separate cells. Four years previous to the operation he had first noticed a prominence of his right eye, which had gradually increased; the eye had been quite blind for 12 months. There was no history of any cerebral symptoms; no family history of tumours, and no glandular affection. He had had a blow on one of his eyes (he was not sure which) from a stone five years before the prominence commenced. The growth, which is about the size of a tennis ball, is not quite entire, a portion having been cut off its posterior surface. It is covered by a fibrous

capsule. It is firm in consistency and, when fresh, appeared on section of a uniform pinkish-grey colour with a few streaks of yellow in it. Microscopically it is seen to consist of bundles of fibrous tissue and groups of closely packed spindle-shaped cells; many blood vessels course through it. The eyeball on the inner side is much flattened; the sclerotic, instead of being curved, is quite straight. The rétina is somewhat creased, otherwise the eye appears healthy.

No. 6.—Portions of the left eye, the optic nerve and a tumour surrounding it, removed from the orbit of a man, aged 33. Five weeks previous to the operation he first noticed pain in his left eye, a month later he found that he saw double. On his coming under observation there was found to be ptosis, œdema of the conjunctiva, restriction of the movements of the globe and proptosis. Ophthalmoscopic examination showed blurring of the margin of the optic disc and enlargement and tortuosity of the retinal veins. The eyeball is somewhat flattened antero-posteriorly, otherwise it appears healthy; a piece of optic nerve, 23 mm. in length, has been removed with it, and is surrounded by the new growth, which is also intimately adherent to the sclerotic posteriorly. The growth is roughly about the size of a chesnut, and has been cut into in places during removal. Microscopically the growth is seen to be a round-celled sarcoma, which infiltrates the structures around, but apparently does not start from the sheath of the optic nerve.

No. 7.—A tumour, removed from the left orbit of a girl, aged 5. Proptosis of her left eye had been noticed for six weeks previous to the operation; it was displaced forwards, outwards, and downwards, and its upward movement was much restricted. The tumour has been partly divided into two, and is about the size of a Brazil nut; it is firm in consistency, and its outer surface is nodulated. The cut surface presents a whitish, striated appearance, very much like that of an unripe pear. Microscopically the growth is seen to be a spindle-celled sarcoma; in places the cells have undergone degeneration.

The growth recurred in the orbit; a second operation was performed 10 months after the first, and a third six months later.

No. 8.—A recurrent growth and a portion of the upper eyelid, removed from the left orbit of a woman, aged 60. The primary growth had been removed from the orbit two months previous to the operation for the recurrence. Prominence of the eye and failure of sight was noted eight months previous to the first operation. The tumour has been cut into posteriorly, it is of yellowish hue on section, and its several portions are seen sharply defined from the orbital tissue which they are infiltrating. Microscopically the growth is seen to be a spindle-celled sarcoma.

No. 9.—The eyelids, the whole conjunctival sac, and the eyeball with a considerable portion of the extraocular muscles attached to it, all of which were removed *en masse* from a right orbit of a man, aged 69, who had ptosis, with proptosis and almost complete loss of all ocular movements, but without any fundus changes, though the sight was very defective. This had existed for five months. Some days after the operation, chloride of zinc paste was applied to the orbit. At the present time, nearly six years since the operation, there is no recurrence of the growth, and the patient enjoys perfect health. The four recti muscles are much thickened, especially the superior. The thickening is most marked posteriorly, and lessens near their insertion into the globe. The optic nerve appears healthy. Microscopical examination of sections of the muscles show them to be infiltrated with numerous small round cells; these are situated between the muscle fibres, which they completely isolate. A sarcoma starting near the apex of the orbit has extended forwards along the muscles.

Subseries (B).—Starting in the Conjunctiva or Eyelids.

New growths of the eyelids and conjunctiva are very common, but usually come under treatment in an early stage, so that specimens of them suitable for preservation in a museum are not often obtained. The only ones of which examples are contained in this collection are papillomata (No. 1) and sarcomata of the conjunctiva (No. 2), and horns (Nos. 3, 4, 5, and 6) and dermoid cysts of the eyelids (No. 7).

The conjunctiva and eyelids may also be the seat of nævi, cysts, fibromata, adenomata, glandular carcinomata, rodent ulcers, and epitheliomata.

Papillomatous growths of the conjunctiva are very infrequent; the one contained here resembles very closely in its structure a villous tumour of the bladder (No. 1).

Horny growths of the eyelids, which sometimes attain considerable size (Nos. 3, 4, 5, and 6), commence as warts, whose surface epithelium becomes dry and hard, and is not cast off.

Dermoid cysts in the eyelids or eyebrow, due to sequestration of a portion of the surface epiblast during foetal life, are by no means uncommon; they are most often met with at the outer or inner angle of the orbit, along the line of the orbito-nasal fissure. They are deeply situated beneath the orbicularis muscle and in contact with the pericranium. Their contents consist of sebaceous matter, and degenerate epithelial cells (No. 7). Their walls are lined on the inner surface by laminated epithelium, amongst which hairs grow.

Sarcomata of the conjunctiva are rare; they may be devoid of pigment or densely black (No. 2). The one in this collection, which had attained a considerable size, protruded between the lid and the globe.

No. 1.—The lateral half of a shrunken eyeball, together with a piece of the upper eyelid and a large portion of the conjunctival sac. They were removed from a woman, aged 46, who, 12 years previously, had been a patient at the hospital with an eye affection following "low fever." The operation of peritomy was then performed on the eye. A year before excision she stated that she was struck on the lower eyelid by a hop-pole, and that three days later she noticed a pimple just above the lashes of the upper lid, which had grown steadily larger and had become very painful. The eyeball measures 16 mm. antero-posteriorly, and 17 mm. vertically. Hardly any corneal tissue is left, there is no anterior chamber, the lens is absent, the vitreous shrunken, and the retina detached from the ora-

serrata up to the optic disc. The upper lid is much thickened by new growth, its palpebral margin can no longer be clearly defined. The growth has a papillated surface of a velvety appearance. Microscopically it is seen to be composed of numerous delicate finger-like processes, consisting of epithelial cells arranged around central blood-vessels and fibrous tissue, as is typical of papillomatous growths.

No. 2.—The lateral half of an eyeball, a portion of the lower eyelid, and the lower conjunctival sac, with a melanotic tumour growing in the latter. They were removed from a patient *en masse* after death. No further history of the case is known. The eyeball appears healthy, the cornea is somewhat puckered, and the retina is slightly detached, but these are probably *post mortem* changes. The lower margin of the lid can be seen with eyelashes along it. Between the margin of the lid and the globe is a large, deeply pigmented mass; it measures 19 mm. by 36 mm., and embraces, without invading, the lower part of the sclerotic, from the equator as far forwards as the corneal margin. Microscopically the growth is seen to be a densely pigmented round-celled sarcoma.

No. 3.—A horny growth removed from the upper eyelid of a man, aged 72. He stated that it began as a small wart 14 months previously. It sprang from the free margin of the lid just above the eyelashes near the outer canthus. It measures 15 mm. in length, 11 mm. in breadth at the base, and 7 mm. in breadth at the tip. It is very hard, of a brownish colour, flat on one surface, concave on the other; there are some hairs on the convex surface.

No. 4.—A horny growth removed from the lower lid of a man, aged 40; it had been growing for two months, and was situated just below the lashes. It measures 9.5 mm. in length and 6 mm. in breadth. It is hard in consistency, of a greyish colour, and has some long hairs attached to its base.

No. 5.—A horny growth, preserved in the dry state. It was removed from the right upper eyelid of a man, aged 36. The patient stated he had had a wart in that situation since he was a boy; a month previous to its removal it was the size of a

small hazel nut, since then it had grown rapidly, and was very irritable. The growth is of bony hardness, and measures from base to apex 28 mm.; the greatest diameter at the base is 26 mm. and the smallest 21 mm. Its base is convex, and the surface is smoother there than elsewhere. Its apex is rough, and presents a number of irregular points.

No. 6.—A horny growth, removed from the lower eyelid of a woman, age 71. She stated that it had been growing for two months. It measures 47 mm. in length, and the diameter at its thickest part is 6 mm. It is curved at the two ends, and has some hairs attached to it at one extremity.

No. 7.—A dermoid cyst, removed from the eyelid. The history of the case is not known. The specimen has been partially divided into two. It measures 3 cm. in length, 2 cm. in breadth. The wall of the cyst is very thin; the incision which had been made into it exposes the sebaceous contents.

Subseries (C).—Starting in the Cornea.

The tumours met with in connection with the cornea are either cystic or solid. Cystic tumours are of extreme rarity. The specimen in the collection (No. 1) is the largest of which there is any record; it followed on a perforating wound, and is lined by laminated epithelium. Some of the surface epithelium was doubtless, at the time of the wound, carried into the substance of the cornea, and this by the proliferation and the liquefaction of some of its cells has produced the cyst.

Dermoids are the commonest of the solid tumours of the cornea; they are congenital growths, and are nearly always situated at the sclero-corneal margin; so that some writers describe them as tumours of the conjunctiva, though they generally extend for some distance over the surface of the cornea. They are usually about the size, and have much the appearance, of a split pea. Their minute structure resembles exactly that of skin with its glands and hair follicles. No specimen of them is contained in the Museum, nor is there one of a fibroma,

which form of growth has also occasionally been met with starting from the cornea.

The malignant tumours of the cornea, epitheliomata (No. 2) and sarcomata (Nos. 3, 4, and 5), are rare; both start, as a rule, from the sclero-corneal margin. The former, in an early stage, are often mistaken for a simple ulcer, or a pterygium. The points which help to distinguish an epithelioma from these affections are the ragged irregular margin of the ulcerated surface, the peculiar dull white appearance that the ulcer presents, due to thickened epithelium on its surface (No. 2), and the fact that the ulcerated surface is raised, there being evidently new growth. Malignant tumours of the cornea do not at first extend deeply, the dense fibrous tissue of the cornea offering considerable resistance to their down growth. They tend rather to increase in area, and form large out-growing masses (Nos. 3, 4, and 5).

Sarcomata growing from the sclero-corneal margin are sometimes partially pigmented (Nos. 4 and 5).

No. 1.—The lateral half of the right eye of a lad aged 15. Two years and nine months previous to excision, he received a perforating wound in the centre of the lower half of the cornea from a stick. The iris became adherent to it, severe iritis ensued, and the tension became increased. Two iridectomies were performed with the hope of relieving this, but were unsuccessful. Considerable bulging at the seat of the injury took place, which was thought to be an ordinary staphylo-matous condition of the cornea. Situated in the lower part of the cornea and in the adjoining sclerotic is a large cyst, measuring 5 mm. antero-posteriorly and 9.5 mm. laterally. Microscopically, it is found to be lined with laminated epithelium, exactly resembling that on the anterior surface of the cornea. The iris is adherent to the posterior surface of the cornea; part of it has been removed. The lens, which was much flattened from before backwards, has become somewhat broken in the mounting of the specimen. The retina is *in situ*. The optic disc is deeply cupped.

(Recorded in the Trans. Ophth. Soc., vol. xii, p. 64.)

No. 2.—A portion of the front half of the eye of a man aged 50, who had been treated for some months for what was thought to be a pterygium. Several operations had been performed for its removal, after each of which it returned. A portion of the growth situated at the sclero-corneal margin was removed shortly before the excision of the eye, and microscopical sections showed it to be an epithelioma. The specimen shows at the outer margin of the cornea, involving part of its structure, and also the conjunctiva in its vicinity, a slightly raised new growth with an irregular margin, and of a dense opaque white colour.

No. 3.—The two lateral halves of a right eyeball, partially separated by an antero-posterior section. It was removed from a man aged 38, who, about five months previously, had noticed a small swelling at the upper and outer part of the cornea or sclero-corneal margin. It increased rapidly in size, and latterly had begun to bleed. The eye was excised on July 12, 1858. About six months later, a second operation was done, but no details of it were kept. Two years after the second operation (January 4, 1861), it is noted that the growth had again returned, and formed, at that date, a fungating, bleeding, and suppurating tumour, as large as a hen's egg. The man was then very nervous and excitable, but had not lost flesh or appetite. No further history is known. The section has been carried through the centre of the tumour, which is about the size of a small cherry; it grows from the sclero-corneal margin, and is of a reddish pink colour. All the other parts of the eye appear healthy. Microscopical examination of the growth shows it to be a spindle-celled sarcoma.

No. 4.—The upper half of a left eye. The history of it is not known. Springing from the outer half of the cornea and the adjoining sclerotic by a base 10 mm. in width, is a new growth, measuring 11 mm. in height. Nowhere does it encroach upon the cavity of the globe. It is seen at the seat of section to be partially pigmented. Microscopical examination shows it to be a spindle-celled sarcoma. The lens has been removed from the specimen.

No. 5.—A thick section from the front half of the right eye

of a woman aged 39. A year previous to its removal, a small dark growth was first noticed at the outer sclero-corneal margin. It gradually increased in size, and became pendulous, and at last painful. Starting in the subconjunctival tissue at the sclero-corneal margin on the outer side, is a mass of new growth which projects forwards 14 mm. from the surface of the globe. It is of a greyish colour, on section, with dark brown markings in it. The conjunctiva appears to extend over the front of the growth; only the most superficial layers of the cornea and sclerotic are invaded. The other parts of the eye appear healthy. Microscopically, the tumour is seen to be a mixed, round and spindle-celled, sarcoma.

Subseries (D.)—Starting in the Iris or Ciliary Body.

The iris is the locality in which cystic tumours of the eye are most frequently met with; solid tumours of it are exceedingly rare; sarcomata are less commonly met with in it than in any other part of the uveal tract.

Cystic tumours of the iris may be divided into three classes:—1. Epithelial cysts; 2. Endothelial cysts; 3. Cysts due to the separation of the two layers of pigment on the posterior surface of the iris.

The characteristics of the first class (Nos. 1 and 2), the epithelial cysts, are that their lining membrane is composed of several layers of laminated cells, and that they always follow on perforating wounds of the eye, being due to the implantation of some of the surface epithelium into the stroma of the iris. An eyelash is sometimes implanted into the eye, with the epithelium composing its root sheath adherent to it (No. 1); the tumour then forms around the root of the eyelash. The contents of these epithelial cysts is sometimes fluid (No. 2) and sometimes semi-solid (No. 1), depending probably upon the source of the implanted epithelium, for it seems probable that the contents of a cyst formed by the implantation of the epithelium of the skin would be different to one formed by implantation of the surface epithelium of the

cornea. The semi-solid contents are found microscopically to consist of degenerate epithelial cells, fatty globules, and cholesterine crystals. These latter give, when the cysts are freshly opened, a pearly lustre, and they have consequently been termed by some, epithelial pearl tumours. These cysts, if left in the eye, continue slowly to grow, and by their expansion displace and cause absorption of surrounding structures (No. 2).

No specimen of an endothelial cyst is contained in this collection. They can generally be effectually removed by operation, and do not entail excision of the eyeball. They differ from the epithelial cysts in that their lining membrane is composed of but a single layer of flattened cells, which are not implanted from without, but are produced from those on the anterior surface of the iris or posterior surface of Descemet's membrane, and therefore endothelial not epithelial, mesoblastic not epiblastic in origin. They may follow on an injury not necessarily a perforating wound, but also arise spontaneously. They are probably formed by the occlusion of the mouth of one of the crypts on the anterior surface of the iris.

Small cysts formed by the separation of the two pigment epithelial layers of the iris, which represent the two layers of the anterior extremity of the secondary optic vesicle, are not unfrequently met with in pathological specimens in which there has been a plastic uveitis. The inflammatory effusion unites the posterior pigment layer, the pars iridis retinæ, to the lens capsule. The potential space which exists between the two layers then gets opened out by the accumulation of serous fluid in it, and the stroma of the iris and anterior layer of pigment epithelium are pushed forwards. Such a condition of things is indistinguishable clinically from what is known as *iris bombé*. Separation of the two pigment epithelial layers by serous fluid may, however, in rare cases occur apart from any inflammation. A pigmented tumour is then found protruding through the pupil from

between the iris and lens; that it contains fluid may be recognised by the vibration of its walls on movements of the eye.

Sarcomata of the iris may be melanotic (No. 4) or devoid of pigment (No. 3), spindle or round cell, or composed partly of both varieties. The melanotic sarcomata commence sometimes in a simple melanoma or congenital pigmented nodule of the iris (No. 4), just as melanotic sarcomata of the skin begin in moles of that structure. Leucosarcoma of the iris cannot be readily diagnosed from inflammatory granulomata, either tubercular or syphilitic, and often the effect of treatment and the progress of the case have to be watched in order to arrive at a conclusion as to the real nature of the growth (No. 3). Sarcoma of the iris spreads rapidly back to the ciliary body, and early involves the angle of the anterior chamber giving rise to increased tension (No. 4). The pressure of the growth backwards causes a localised opacity to form in the lens (No. 4).

The tumours of the ciliary body of which descriptions have been recorded are cysts, myomata, adenomata, glandular carcinomata, and sarcomata. No specimen of the three first mentioned are contained in this collection. There is one of a glandular carcinoma, a partly pigmented and partly non-pigmented growth (No. 13). That primary tumours of a glandular character should occur in the ciliary body is of considerable interest, affording confirmatory evidence as to the glandular character of the tubules found in bleached sections of the ciliary body dipping down from its pigment epithelial lining, from which, doubtless, these growths take origin.

Sarcomata of the ciliary body, like those of other parts of the uveal tract, differ in their structure, being round-celled, spindle-celled, or alveolar, and in the amount of pigmentation. Leucosarcoma of the ciliary body (No. 6) is less frequent than melanotic sarcoma. The melanotic sarcoma may be densely black (Nos. 7, 8, 9, and 10)

or of a grey colour with brown markings (Nos. 11 and 12).

The tumours of the ciliary body which are white or only partially pigmented, appear clinically deeply melanotic, because the pigment epithelium that overlies them is what is seen through the lens (Nos. 6 and 11). It is not until a section of the growth has been made that its real colour can be determined. Sarcomata starting in the ciliary body tend to spread forwards to the iris, and backwards into the choroid. They invade the root of the iris, and appear at the periphery of the anterior chamber, and if pigmented produce a condition very much resembling an iridodialysis (No. 7, Fig. 11). They may find exit from the eye along the track of one or more of the anterior ciliary blood vessels through the sclerotic, and appear as sub-conjunctival pigmented nodules a short distance from the corneal margin (No. 7, Fig. 11). Occasionally, though not usually, sarcomata of the ciliary body grow in a pedunculated manner, as is frequently the case in sarcomata of the choroid. They are then found to have a broad base of attachment, a constriction, and to terminate internally in a rounded knob (Nos. 5, 9, and 12). The constriction is found microscopically to be the position at which the growth has burst through the lamina vitrea; when no longer confined beneath it the tumour grows more luxuriantly, and expands into a rounded mass.

In specimens of tumour of the ciliary body, the side and posterior surface of the lens are frequently found much pressed upon, its position, shape, and transparency, being consequently affected (Nos. 6, 7, 10, and 11). Occasionally the lens capsule becomes perforated by the growth, and its cells are found infiltrating the lens substance (No. 5).

Large tumours of the ciliary body may exist without there being any general shrinking of the vitreous or detachment of the retina (Nos. 6, 7, and 10). Generally, if a tumour has existed for some time the nutrition of the

vitreous humour becomes affected, it contracts, and secondary detachment of the retina ensues (Nos. 5, 8, 9, 11, and 12). It is not until the vitreous has become completely shrunken and the retina everywhere detached from the choroid that glaucoma sets in (Nos. 5 and 13).

No. 1.—A portion of the front half of the right eye of a lad, aged 8. A year and seven months previous to its removal it had been wounded by a piece of wire; seven months after the injury, when he first came under observation, an eyelash was seen in the anterior chamber, surrounding the root of which was a small nodule, wedged in between the iris and cornea. The lens was cataractous, and there were posterior synechiæ. The eyelash was removed through an incision in the cornea, but only a portion of the growth was got away. A year later the eye became very inflamed and irritable; the tumour had grown considerably, measuring 7 mm. in its longest diameter. On one side of the specimen, situated in the iris tissue, is seen a silvery-greyish oval mass of loose consistency. The iris tissue in front of it is pushed forwards into contact with the back of the cornea, and the iris tissue behind it is slightly displaced backwards behind the plane of the posterior surface of the iris on the opposite side. The anterior chamber on the side opposite to the growth is of good depth. The lens is in great part absent, a thin layer of its substance only remaining. The vitreous is of good consistency. Microscopical examination of the growth shows it to be a cyst lined by laminated epithelium, and containing degenerate epithelial cells, fat globules, and in the recent state cholesterine crystals.

(Recorded in the Trans. Ophth. Soc., vol. xiii, p. 199.)

No. 2.—Half of a shrunken eyeball removed from a man aged 40. It had been wounded 28 years previously by a "tip-cat," and had recently become painful. The specimen has been cut into two pieces. The eyeball is almost square in shape. The sclerotic is somewhat thickened and puckered. The cornea is shrunken, its vertical diameter being diminished. In the interior of the eyeball is a large cavity, which measures 11.5 mm. antero-posteriorly, and 12 mm. laterally. It is bounded anteriorly by the posterior surface of the cornea. Posteriorly

and laterally its walls present many elevations and depressions. Between the posterior wall of the cyst and the sclerotic is a mass of pigmented tissue, in which is some bone. There is no lens in the eye; the position of its tunics cannot be differentiated macroscopically. Microscopical examination shows that the whole of the cavity in the interior of the globe is lined by laminated epithelium, closely resembling that normally found on the anterior surface of the cornea. At the sclero-corneal margin is seen the line of a cicatrix, embedded in which is a second small cyst lined by laminated epithelium.

(Recorded in the Trans. Ophth. Soc., vol. xi, p. 133.)

No. 3.—The front half of an eye, from which the cornea has been removed. It was excised from a lad, aged 17; no further history is known concerning it. A yellowish nodulated tumour about the size of a split pea occupies the whole width of that portion of the iris on which it is seated, and projects into the pupil so as to cover about one quarter of its area. The rest of the iris looks perfectly healthy, the pupil being round and free from any adhesion to the lens-capsule. The other parts of the eye shown in the specimen are healthy. No microscopical examination has been made of the growth, and it is doubtful whether it is an inflammatory granuloma or sarcoma. The absence of other inflammatory changes in the iris is in favour of its being a sarcoma.

No. 4.—A portion of the anterior half of the right eye of a woman, aged 39. She stated that three years before excision she noticed a discolouration of its inner part. The swelling and discolouration, she said, slowly increased. A few months before excision she could only see light from dark with the eye, the last fortnight pain had set in. A new growth, of a deep black colour on section, involves the iris on the inner side in its whole length, from the pupillary margin to its root, and also the ciliary processes. It is thickest about on a level with the sclero-corneal margin, where it measures 4 mm. across. The anterior surface of the growth is for some distance in contact with the back of the cornea, which is somewhat thinned and bulged in front of it. The anterior surface of the lens on the inner side is somewhat indented by the pressure of the

growth, and there is a white opacity of it there. The colour of that portion of the iris not involved in the growth was described clinically as for the most part of a tawny yellow, curiously mottled with patches and streaks of deep brown or black pigment. The iris of the patient's left eye was of a pale bluish-green colour. Microscopical examination shows the growth to be a melanotic spindle-celled sarcoma.

No. 5.—The outer half of the left eye of a man, aged 33. He had had an injury, which bruised it, five years previous to excision. The sight had only been failing 10 months; it commenced to go on the outer side. Starting from the upper part of the ciliary body and anterior portion of the choroid is a large mass of deeply pigmented new growth, which extends inwards to the middle line of the globe and backwards, by a rounded extremity, behind the equator. There is a constriction in the growth about its centre. The retina is completely detached from the choroid, both on the side of the growth and on that opposite. The inner surface of the retina from the two sides is apparently in contact. No remnant of the vitreous is visible, the retina seeming to embrace the back of the lens. The lens and iris are both pressed forwards, the latter being in contact with the back of the cornea. The portion of the lens in contact with the growth is seen to be infiltrated by it. Microscopically the tumour is found to be a small spindle-celled sarcoma.

No. 6.—The lateral half of the left eye of a man, aged 29. Three years previous to coming to the hospital he first accidentally discovered it was blind. Never at any time had he had any pain in the eye. Springing from the lower and outer part of the ciliary body by a base which extends from the root of the iris to a little behind the ora serrata is a yellowish-coloured tumour of somewhat cavernous structure and about the size of a marble. It extends inwards as far as the centre of the globe, and presses upon and indents the posterior surface of the lens. The uveal pigment covers the whole inner surface of the growth. The retina, when the eyeball was first opened, was *in situ*. It has become somewhat rucked in mounting the specimen. Microscopically the growth is found to be a small

oval-celled sarcoma, devoid of pigment, but very vascular and having large empty spaces in it, lined by endothelial cells.

No. 7.—The inner half of the right eye of a man, aged 56. The sight had commenced to fail in it three months previous to its removal. He had had an injury to it 30 years before from a gas-pipe. There is a large deeply pigmented growth springing from the lower part of the ciliary body, and extending from the root of the iris to the equator of the globe. It has extended forwards and invaded the root of the iris, so that it showed through the cornea at the periphery of the anterior chamber. It presses on and has considerably flattened the side of the lens, but does not reach inwards as far as the centre of



FIG. 11.—Specimen No. 7, showing a melanotic sarcoma of the ciliary body, and a small extraocular nodule a short distance from sclero-corneal margin.

the globe. There is a small nodule of pigmented growth external to the sclerotic overlying the intraocular mass, a short distance from the sclero-corneal margin (Fig. 11). The retina is *in situ*. The vitreous is not at all shrunken, and is of good consistency. Microscopically the growth is found to be a melanotic spindle-celled sarcoma.

A year and eight months after the removal of the eye the patient was alive and well.

No. 8.—Half of a left eyeball, opened by an antero-posterior oblique section; the history of it is not known. Growing from the upper and inner part of the ciliary body is a deeply pigmented growth. Its base extends from the root of the iris backwards to a short distance behind the equator of the globe. Internally, its apex extends slightly beyond the middle of the globe. The angle of the anterior chamber is widely open. The lens is not altered in shape. The vitreous is much shrunk, and the retina is extensively detached from the choroid, and folded. Microscopically the growth is found to be a melanotic spindle-celled sarcoma.

No. 9.—The inner half of the left eye of a woman, aged 46. The sight of it had commenced to fail two months previous to its removal. She had never at any time received any injury to it. There is a deeply pigmented growth springing from the upper part of the ciliary body, by a base which extends from the root of the iris to a little behind the equator. The growth has a constriction in it about its centre. It terminates internally in a rounded knob which extends beyond the centre of the globe. The angle of the anterior chamber is narrowed, but not closed. The lens is not altered in shape, but the growth is in contact with its posterior pole. The vitreous is much shrunk, and the retina is everywhere detached from the choroid. Microscopically the growth is found to be a melanotic spindle-celled sarcoma.

No. 10.—The front portion of the lateral half of the right eye of a woman, aged 63. It had dark patches of pigmentation in the sclerotic and a hazel-coloured iris. The dark patches, she stated, had always been present. Failure of vision in the eye had only been noticed a short time before its removal. A very deeply pigmented tumour is seen to grow from the inner portion of ciliary body and choroid. The main mass of the growth is from the ciliary body, but the choroid nearly as far back as the margin of the optic nerve, was thickened. The growth is seen to embrace the inner side of the lens, the cortical layers of which appear very degenerate. The whole uveal tract is unusually deeply pigmented. In the reflection of the specimen seen in the mirror beneath it, an extensive patch of

pigmentation in the sclerotic is shown. The retina is *in situ*. Microscopically the growth is found to be a melanotic, round and small spindle-celled sarcoma.

No. 11.—The lateral half of a right eye removed from a woman, the history of it is not known. A large oval-shaped tumour is seen growing from the lower and inner part of the ciliary body; its base extends from the root of the iris backwards to behind the equator of the globe, and its apex inwards to beyond the middle line; it is of a greyish colour on section with some dark brown markings in it. The whole of its inner surface is covered by the pigment epithelium. The anterior chamber is very shallow, and the lens much pressed upon and misshapen. The retina is folded, and detached from the choroid, but adherent to the optic disc and to the apex of the growth. The vitreous is considerably shrunken. Microscopical examination of sections of the specimen show the tumour to be an alveolar round-celled sarcoma.

No. 12.—The lateral half of an eye, the history of which is not known. Growing from the lower and inner part of the ciliary body is a pedunculated tumour, of a greyish colour on section, with dark brown markings in it. Its base extends from the root of the iris, which it invades, to about the equator; it has a constriction in it, and terminates internally in a rounded knob, the apex of which does not reach the middle line of the globe. The anterior chamber is of normal depth, the lens is not pressed upon or misshapen. The retina is detached from the choroid, but adherent to the optic disc and the apex of the growth. The vitreous is shrunken. There is a coagulated albuminous material between the retina and choroid.

No. 13.—The inner half of the left eye of a woman, aged 28, which had become inflamed, and of which the sight had commenced to fail six months previous to its removal. The tension at the time of excision was +1. Growing from the upper part of the ciliary body is a tumour, which extends from the root of the iris back to a little distance behind the equator. It presses on the upper part of the lens, and behind, it reaches the middle line of the globe. The anterior three-fifths of the growth is densely black, and the posterior two-

fifths white. The line separating these two different coloured parts is sharply defined. The anterior chamber is shallow ; its angle is narrowed by the contact of the root of the iris with the periphery of the cornea. The vitreous is exceedingly shrunken. The retina is everywhere detached from the choroid, but remains adherent to the optic disc. Microscopical examination shows the growth to be largely composed of cells of an epithelial type, and arranged in loculi, suggestive of a glandular structure.

No. 14.—The lower half of the left eye, divided into two portions and mounted in separate cells. It was removed from a woman, aged 26, no further history is known concerning it. A new growth, of a white colour on section, springs from the ciliary body and anterior portion of the choroid, by a base which extends from the root of the iris to a little behind the equator of the globe. It extends inwards and backwards, and ends in a round surface which does not quite reach the middle line of the globe. In the recent state the retina was in apposition with the choroid everywhere, except where the tumour had raised it up. Microscopically the growth is found to consist of round and spindle-shaped cells.

Subseries (E).—Starting in the Choroid.

The forms of new growth which have been met with in the choroid are cysts, nævi, carcinomata, and sarcomata. Cysts are very uncommon, and when they occur are situated in the loose lymphatic tissue between the choroid and sclerotic, constituting the lamina suprachoroidea. Some of them seem to be partial detachments of the choroid from the sclerotic, resulting in the first place probably from hæmorrhage (No. 1). In others there is considerable thickening of the loose lymphatic tissue, with large spaces in it, constituting cysts. (Series I, sub-series E, No. 1.)

Nævi of the choroid are also very rare, but occur sometimes in association with nævi of the face. There is no specimen of a simple nævus of the choroid in this collection, but there is one of an exceedingly vascular tumour which, microscopically, is seen to be composed of oval and

round cells and nævoid tissue, and which is best described as a nævoid sarcoma (No. 39). Carcinoma when it occurs in the choroid is always secondary to carcinoma elsewhere, generally of the breast; there is no specimen of this form of growth in the museum. Sarcomata are by far the commonest form of growth met with in the choroid, they may be composed of oval, round, or spindle-shaped cells. They vary considerably in the extent and density of their pigmentation. They are most often densely black (Nos. 2, 11, 18, 21, 24, 26, 29, 34, 35, 38, 40, and 41), but may be quite white (Nos. 4, 5, 6, 16, 20, and 25), grey (Nos. 3, 31, 36, and 37), fawn coloured (Nos. 9, 10, 23, and 27), or piebald (Nos. 7, 8, 12, 13, and 37).

In consistency, also, they present many differences; they are usually firm, but may be flocculent (Nos. 4 and 20), spongy (No. 23), and in rare cases show a tendency to cystoid degeneration (No. 5). Some on section have a peculiar foliated appearance very similar to the convolutions of the brain (Nos. 9 and 38) Fig. 13.

Sarcomata of the choroid may be diffuse or circumscribed. When diffuse they extend over a large area of the choroid without giving rise to any one large mass (Nos. 18 and 35). The area occupied by the base of a localised tumour varies considerably irrespective of its size. Occasionally, besides the main mass of growth, secondary little isolated patches are seen scattered about the choroid (No. 40).

A sarcoma starting in the choroid is situated at first beneath the elastic lamina, which structure is raised in front of it (No. 31), and as the tumour grows, gradually becomes more and more stretched, until at last it gives way and the tumour extends through the gap (Nos. 6 and 28). The tumour then, being no longer confined in its growth by the pressure of this membrane, commences to fungate out into a rounded knob (Nos. 3, 4, 7, 25, 26, 32, 33, and 41), Fig. 12, a constriction being left at the point where it burst through the elastic lamina.

The retina as well as the elastic lamina becomes raised up in front of the tumour (Nos. 11, 31, and 36); usually, very soon after the appearance of the growth, the retina becomes detached from the choroid, serous fluid collecting between the two tunics. The retina is sometimes detached from the tumour as well as from the choroid (Nos. 7, 28, 32, 33, 35, and 41); more commonly it remains adherent to the apex of the growth (Nos. 3, 12, 13, 14, 24, 25, 30, and 38), Fig. 12.

It is not until late in the disease that the retina becomes invaded by sarcomatous tissue (No. 15). The detachment of the retina may be due to the shrinking of the vitreous from some interference with its nutrient supply, caused by the growth, or to the pressure of serous fluid exuded from the choroidal vessels, resulting from obstruction caused by the growth to the exit of venous blood. As a case progresses the shrinking of the vitreous and detachment of the retina increases, until ultimately hardly anything is left of the former, and the retina, much folded and plicated, appears to lie in direct contact with the back of the lens (Nos. 32, 33, and 41). The accumulation of subretinal contents continuing, causes the lens and iris to be pressed forward, the anterior chamber to become shallow, and its angle to be closed (Nos. 3, 12, 13, 15, 24, 28, 32, 33, 37, 40, and 41). The further escape of intraocular fluids being thus obstructed, increase of tension results, the lamina cribosa is displaced backwards, and the optic disc becomes atrophied and cupped (No. 10).

Occasionally the growth extends forwards into the anterior chamber (Nos. 16 and 19), invades the cornea, protrudes through a perforation in it, and forms a large fungating mass anteriorly (Nos. 27 and 34). More often it gains exit from the eye through the sclerotic, at first along the course of one of the blood vessels. The extraocular nodules or masses are situated equatorially at the place of exit of the *venæ vorticosæ* (Nos. 14, 15, and 40), or,

posteriorly, where the posterior ciliary arteries enter the eye (Nos. 18, 20, 22, 26, 34, and 35). The growth probably extends along the lymphatic sheaths of the blood vessels; it does not extend out of the eye and form extraocular masses only when the interior of the globe is full and there is no more room for its expansion there, for extraocular masses are frequently met with when the intraocular growth is not very large (Nos. 12, 17, 18, 22, 26, and 35). Sometimes in such cases the extraocular growth will press upon and flatten the side of the globe which the intraocular growth has not yet involved (No. 29). Another position in which sarcoma may extend out of the eye is along the optic nerve; it penetrates into the space between the pial and dural sheaths and expands there (Nos. 8, 23, 29, 33, and 35). The extraocular growths are usually pigmented or unpigmented like the intraocular growths with which they are associated (Nos. 14, 15, 18, 20, and 40). Occasionally, however, when the intraocular growth is deeply pigmented the extraocular growth is white (No. 12). When a sarcoma of the choroid has existed for some time, the sclerotic often becomes much invaded by it (Nos. 11, 12, 15, 17, 19, 21, 23, 29, 34, and 40). Shrunken blind eyes seem specially predisposed to this form of growth (Nos. 2, 16, 20, 21, 22, and 23).

No. 1.—The lateral half of the right eye of a woman, aged 40. Two months previous to its removal an iridectomy was performed on it for absolute glaucoma. The following day the lens was found to have escaped, and the vitreous was protruding. There is some puckering and thickening seen in the neighbourhood of the iridectomy incision. A small portion of the cortex of the lens is seen lying behind the iris; the vitreous is exceedingly shrunken. The retina is completely detached, and forms a thin band passing through the centre of the globe. Between the choroid and sclerotic is some grey fibrous-looking tissue, in which four large oval spaces are seen.

No. 2.—Half of a shrunken eye with a large melanotic growth attached. It was removed from a man aged 70, who 15 years previously had suffered from dimness of sight in it, for which he had undergone an operation. He stated that 12 months before excision he first noticed a little pimple in his right lower lid, which had gradually enlarged. The cornea is seen to be very small and thickened. The sclerotic is thickened and much puckered, the melanotic growth starting in the interior of the globe, protrudes through a gap in it. External to the globe the growth forms a large densely pigmented mass which encircles half its circumference. The growth appears to be everywhere encapsuled except posteriorly, where it has been cut into during removal and presents a ragged surface. The iris cannot be distinguished. The lens has calcareous deposits in it, and the vitreous is now replaced by fibrous tissue. Microscopically the growth is seen to be a mixed, round and spindle-celled, melanotic sarcoma.

No. 3.—A portion of the inner half of the left eye of a man, aged 59, the sight of which commenced to fail on the outer side two years previous to its excision. During the last eight



FIG. 12.—Specimen No. 3 showing a sarcoma growing from the choroid, with a constriction in it, and expanding internally into a rounded knob.

months the eye was quite blind, and for four months it had been painful. A grey coloured growth is seen springing from the posterior part of the choroid by a broad base. It has a constriction in its centre, expanding internally into a rounded knob. The retina is detached from the choroid, but is adherent to the apex of the growth. The angle of the anterior chamber is closed by contact of the root of the iris with the periphery of the cornea. Microscopically the growth is seen to be a spindle-celled sarcoma. The patient was alive and well $2\frac{1}{4}$ years after the removal of the eye.

(Recorded in the R.L.O.H. Reports, vol. xiii, p. 157.)

No. 4.—Part of the posterior half of the right eye of a man, aged 64. No further particulars are known concerning the history of the patient. Growing from the choroid in the region of the yellow spot is a tumour about the size of a cherry; it is quite unpigmented, soft, and flocculent looking. The upper part is uniformly rounded (a portion of it has been cut away); it spreads out somewhat widely at its base where it starts from the choroid; a constriction, completely encircling it, marks off the rounded portion from the base.

No. 5.—The lateral half of an eye from a man, aged 54, upon which two operations had been performed, one an iridectomy. At the time of excision it presented all the symptoms of glaucoma, it had no perception of light, and the iridectomy scar was staphylomatous. From the upper and back part of the choroid a tumour projects downwards to within 3 mm. of the equatorial part of the globe below, it thus occupies the greater part of the posterior half of the eye. Its base is about 7 mm. wide, beginning at the equator and extending backwards. The hindermost surface of the tumour is almost in apposition with the disc. The section of it shows the part near the base to be homogeneous, white, and moderately firm; the larger part, however, that furthest from the base, is soft, reddish-brown, from blood staining, and has several cyst-like cavities which contained bloody, grumous fluid. There is a constriction in the growth near its base. The retina which was detached has been removed from the specimen; the sub-retinal space in the recent specimen contained much blood.

The lens is absent. Microscopically the growth is seen to be a sarcoma composed of spindle and oat-shaped cells.

(Recorded in R.L.O.H. Reports, vol. vii, p. 618.)

No. 6.—The front half of the right eye of a boy aged 12. It is stated, "the growth appeared six months before excision and occupied part of the iris and aqueous chamber;" no other details are known. A somewhat conical shaped tumour, with a deep indentation on one side of it, springs from the anterior part of the choroid by a wide base. Its cut surface shows it to be an unpigmented growth, its inner free surface is covered by the pigment epithelium.

No. 7.—The lower half of a right eye of the history of which no further details are known. From the temporal side of the choroid, by a base which extends from a little behind the equator to the margin of the disc, a new growth is seen to start. It has a ring of constriction in it marking off a rounded knob from the basal portion. Its cut surface shows part of it to be darkly pigmented, but most of it of a light colour with a few dark streaks. The retina is detached on both sides from the optic disc up to the ora serrata, the sub-retinal space being occupied by coagulated albuminous fluid.

No. 8.—One hinder quarter of the left eye of a man aged 40, of the history of which no further details are known. Springing from the posterior half of the choroid, and occupying nearly the whole interior of the specimen is a new growth, which on section is of a mottled black and white colour. Its free surface is undulating and on the whole rather concave. On the side of the optic disc towards the centre of the growth, it has extended backwards between the sclerotic and the optic nerve into the outer sheath of the latter.

No. 9.—The lateral half of the left eye of a woman, aged 50. No further history of the eye is known. The whole cavity of the globe posterior to the lens is filled by a brown-coloured new growth, which springs by a broad base from the lower part of the choroid about its equator. The brown colour is partly due to blood staining, partly to melanosis. On magnifying the cut surface of the tumour, it is seen to present a foliated

appearance closely resembling the convolutions on the surface of the brain.

No. 10. The outer half of the right eye of a man, aged 40. Five years previous to excision he had an attack of spontaneous inflammation in it lasting a few days and leaving permanent dimness of sight; he had repeated similar attacks, and the eye became quite blind; the last attack set in three weeks before excision, the tension was increased, the pupil dilated and fixed and the conjunctiva greatly chemosed. A fawn-coloured tumour fills about two-thirds of the interior of the globe behind the lens. It grows from the choroid by a wide base in the yellow spot region. The part of the globe behind the lens unoccupied by the tumour is filled with blood-clots. The optic disc is cupped and the growth extends into and fills the cup.

No. 11.—The inner half of the left eye of a man, aged 58, which commenced to be painful and in which the sight began to fail two years before excision. At the time it was removed the eye was quite blind, its tension was increased, and a pigmented nodular growth could be seen beneath the upper part of the ocular conjunctiva. The globe is considerably enlarged and altered in shape by the protrusion of its upper wall, owing to the growth of a large melanotic tumour at its upper part. The tumour is attached to the choroid and ciliary body from the optic disc behind to the corneal margin in front. At its posterior part it projects into the globe beyond the level of the lower border of the lens and has pushed the retina in front of it. When the eye was first opened the remainder of the retina was *in situ*. The sclerotic in the upper hemisphere cannot be recognised except near the optic disc. The growth external to the globe overlaps slightly the sclerotic which is left at the sclero-corneal margin, extending forwards between it and the conjunctiva. In the recent state the lens was opaque and in apposition with the cornea.

No. 12.—The lateral half of the left eye of a woman, aged 38. She stated that it became blind while she was lying-in with her sixth child, four years previous to excision; there was no pain in it until two years later; about 12 months before

excision the globe commenced to enlarge. A large partly pigmented growth is shown in the upper and posterior part of the globe; it has caused considerable expansion and thinning of the sclerotic, and has perforated it at the posterior and upper part. There is a large extraocular mass of growth above the optic nerve which is unpigmented. The tumour has evidently started in the choroid and pushed the retina downwards in front of it. The retina at the lower part is detached. The angle of the anterior chamber is narrowed by the apposition of the root of the iris and the periphery of the cornea. The patient died about 17 months after removal of the eye with growths in the liver, glands of groins and axillæ, and skin of abdomen.

(Recorded in R.L.O.H. Reports, vol. vi, p. 389 and vol. ix, p. 42.)

No. 13.—The lateral half of the left eye of a woman, aged 20. She was the sixth child of the patient from whom specimen 12 was removed. She first noticed a defect in the sight of the eye four months previous to its excision. A mottled black and white coloured growth is shown filling more than half the interior of the globe behind the lens. It starts from a large base which extends from the ciliary body to the margin of the optic disc. The retina is detached from the choroid on the side opposite to the growth. The angle of the anterior chamber is narrowed by apposition of the root of the iris and cornea. Microscopically the growth is found to be a spindle-celled sarcoma.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 162.)

No. 14.—The lateral half of a left eye, the history of which is not known. A large highly pigmented growth springs from the lower part of the choroid, its base extending from just below the optic disc to the sclero-corneal margin. At about the centre is a deep groove dividing the growth imperfectly into two, so that it looks as if the entire tumour had been formed by the partial junction of two smaller ones. The retina is adherent to part of the upper surface of the tumour, and is elsewhere detached, except at the optic disc and ora serrata. The lens is considerably displaced upwards by the growth. A

little in front of the equator the growth is pushing through a large aperture in the sclerotic, and forms a pigmented extraocular tumour as large as a small bean, beneath the tendon of the inferior rectus muscle. This part of the tumour has the same colour as the intraocular mass.

No. 15.—The outer half of the right eye of a man, aged 58. No details concerning its history are known. The interior of the globe is almost entirely filled by an irregularly pigmented tumour which has grown from the upper hemisphere downwards, until its free surface is separated from the inner surface of the opposite portion of the choroid only by a narrow chink. No retina is perceptible. In the upper equatorial region external to the sclerotic, there is a large irregular mass of growth similar in appearance to that filling the interior of the eye. The position at which the tumour perforated the sclerotic is not known. The extraocular portion of the growth is rather more highly pigmented than the intraocular. The orifices of many large vessels are seen in section in the latter part. The lens and iris are displaced forwards, there is scarcely any anterior chamber left. The growth is seen extending back into the optic nerve a little beyond the level of the lamina cribrosa.

No. 16.—The two lateral halves of an eye mounted in separate cells. No history concerning it is known. It is much altered in shape and only the sclerotic, cornea, and part of the choroid can be made out. The interior of the eye is entirely filled by a mass of unpigmented growth. On one side of the globe the anterior part of the sclerotic can alone be traced, the tumour having invaded and perforated it posteriorly. It there forms a large extraocular mass. The choroid can be recognised as an irregular pigmented line surrounded by growth. There is no note of a microscopical examination, and it is rather uncertain whether the tumour is really sarcomatous.

No. 17.—The lateral half of an eye, the history of which is not known. On one side of the interior of the specimen, extending from the equator of the globe backwards to the optic nerve which it encircles, is a pinkish-white coloured growth with some brown streaks in it, involving the choroid and sclerotic

coats. At its thickest part it measures 9 mm. in width. It appears to have started in the choroid and extended outwards. There is some detachment of retina.

No. 18.—The lateral half of a right eye with a mass of melanotic growth attached to its outer surface posteriorly. It was removed from the right orbit of a man aged 56, who had noticed failure of sight and irritability of the eye eight years previous to its removal. In the course of two years it went blind. Prominence of the eye was not noticed until the last six months; it had increased rapidly the last two months. The shape and size of the eye itself are about normal. The lens and retina with some subretinal effusion have been removed from its interior and mounted in a separate cell. In the recent state the lens was opaque and yellow, and the retina was detached from the choroid. The inner surface of the choroid is mottled by the presence of very large irregularly shaped patches of dark and light colour. The dark patches are the more extensive and are much darker than the normal choroid. The pale areas on the other hand are lighter than normal choroid, and are evidently patches of atrophy through which the sclerotic shows distinctly. At the seat of section of the dark patches, the choroid is seen to be considerably thicker than normal. Attached to the outer surface of nearly the posterior half of the sclerotic is a large deeply pigmented tumour, the hinder part of which is wanting, but which when entire must have been about the size of a hen's egg. The sclerotic to which it is attached is nowhere, so far as is shown, in the least thinned. It is streaked, however, in several places with dark lines, which are probably the sheaths of blood vessels infiltrated with sarcoma cells. Microscopically the growth is seen to be a spindle-celled melanotic sarcoma.

No. 19.—The outer half of the right eye of a man, aged 44. The further history of which is not known. The globe is slightly shrunken, its interior is quite filled with a yellowish firm growth, probably choroidal, although its origin cannot now be definitely determined. Very little healthy choroidal tissue can be seen. The sclerotic is considerably thickened from behind as far as the equator; between the equator and

cornea at the upper part it becomes suddenly much thinner than normal, and staphylomatous; on its outer surface, at the junction of the thick and thin part, there is a small nodule of new growth. The cornea appears healthy, but the growth, which has extended into the anterior chamber, is almost in contact with its posterior surface.

No. 20.—Two halves of a shrunken globe with a new growth starting from the choroid, and a large extraocular tumour attached. No history is known concerning the eye, and it is uncertain whether the shrunken state of the eye preceded the growth, or whether it resulted from the growth. The cornea has apparently sloughed away, the sclerotic is thickened and puckered. The eye is filled everywhere, except at the anterior part, by a mass of soft new growth, for the most part non-pigmented. To the outer surface of the posterior part of the sclerotic, a similar growth adheres, forming a well-defined tumour the size of a walnut. The optic nerve has been cut very long, and its sheath is much thickened.

No. 21.—The eye of a woman, aged 50, partially divided into two by a vertical incision from behind, and a large extraocular mass of growth. Five years before its removal, the sight commenced to fail, and the eye went quite blind in the course of three months. There was no pain in it until eight months before excision; a little later, the patient noticed a bluish mass forming at the upper part of the eye, and it commenced to shrink. The globe is very much shrunken, and the sclerotic much thickened and irregularly puckered; its interior is entirely filled by a mass of deeply pigmented new growth. In the upper part of the sclerotic there is a gap, through which the pigmented growth is passing, and over which the large extraocular mass is lying. The lens is opaque, and the retina depressed downwards and forwards.

No. 22.—The lateral half of a left eyeball, with an extraocular mass of growth attached to it posteriorly; it was removed from a man aged 69, the sight of it having been impaired by a blow from the twig of a tree many years previous to excision. Twelve years before excision, the remaining sight was destroyed by an inflammatory attack,

and subsequently it was subject for several years to recurrent attacks of inflammation. Finally, five months before excision, the eye was noticed to bulge forwards, and the pain became very severe. The cornea is smaller than normal, puckered, and irregular. There is no trace of the lens or its capsule. The choroid is universally but irregularly thickened, it is everywhere intimately adherent to the sclerotic. The retina is much thickened in front of the equator, and hardly recognisable. The pigment epithelial layer is almost entirely absent. Growing from the optic disc is a pyramidal-shaped mass, with a firm and homogeneous base, but a spongy surface, from the presence of many large blood vessels. The inner sheath of the optic nerve is considerably thickened by new growth. Attached to the external surface of the sclerotic behind, is a lobulated mass of growth of a mottled colour. The several portions of the growth are found microscopically to consist of spindle-shaped cells.

(Recorded in R.L.O.H. Reports, vol. vii, p. 277.)

No. 23.—The half of a shrunken eye with a mass of new growth attached to it. It was removed from a man aged 78, who had lost the sight in it 13 years before by spontaneous inflammation. No further trouble was noticed in the eye until two years before excision, when it became irritable. Prominence of the eye had only been noticed by the patient for three weeks. The only parts of the globe recognisable are some wrinkled cornea and sclerotic, and some pigmented tissue at the front part of the specimen. The optic nerve has been cut more than an inch behind the eye, a considerable part of it is infiltrated with new growth, but the proximal end appears healthy. The tumour forms a firm lobulated mass measuring 4 cm. antero-posteriorly and 2.5 cm. vertically. It has evidently started from the interior of the globe, and is of a greyish colour on section, somewhat blood-stained. Microscopically, the tumour is found to consist of rather large spindle-shaped cells. The patient is reported to have died from "inflammation of the lungs and diarrhoea" two years after removal of the eye.

(Recorded in R.L.O.H. Reports, vol. vii, p. 616, and vol. ix, p. 44.)

No. 24.—The lateral half of the left eye of a man aged 57. Three months previous to its excision he had received a blow on it from a clothes prop. He noticed nothing wrong with the sight until the last six months when it failed completely in the course of two or three weeks, and shortly after pain set in, and the tension became increased. The angle of the anterior chamber is seen to be closed by the apposition of the root of the iris to the periphery of the cornea. The growth started in the opposite half of the globe to that preserved, and only its apex, which protruded beyond the middle line, and which was cut off in making the section, is shown. It forms a large circular deeply pigmented mass lying in the centre of the globe, with the retina attached over one surface of it. The retina is everywhere detached from the choroid. The patient was alive and well two years and eight months after the removal of the eye.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 156.)

No. 25.—The outer half of the left eye of a woman aged 70. A defect of sight in it was first noticed five months previous to its removal. The tension at the time of excision was normal. Springing from the lower and posterior part of the choroid is a large tumour of a white colour, which fills about two-thirds of the interior of the globe posterior to the lens. Where it starts from the choroid the growth has a broad base, it then becomes constricted, and afterwards expands into a rounded nodule, the size of a cherry. The vitreous is much shrunk; the retina, which is attached to the apex of the growth, has been pushed in front of it, and is partially detached. The lens is *in situ*; the anterior chamber is shallow, but its angle is not closed. Microscopical examination shows the growth to be a small round-celled leuco-sarcoma. The patient was alive and well two years after the removal of the eye.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 156.)

No. 26.—The lower and outer fourth of an eyeball, and a thick section of it embedded in celloidine, mounted in separate cells. The eye was removed from a woman aged 59, who two years previously, had first noticed failure of sight, and for the last three months had had pain in it. Its tension at the time of excision was +2. A densely black growth is seen

springing from the choroid, by a base which extends from the margin of the optic disc to a little in front of the equator. As it extends inwards, it becomes constricted into a narrow neck, and then expands into a rounded knob. The growth fills about one-third of the interior of the globe. Below the optic nerve, external to the sclerotic, is a small pigmented nodule. A pigmented line is seen in the sclerotic, connecting the intra and extraocular portions of the growth; it is best shown in the thick section of the eye. It is in the position of the track of one of the long ciliary arteries. Microscopically the growth is found to be a round-celled melanotic sarcoma. The patient was alive two years after the operation.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 156.)

No. 27.—Half an eyeball, and, protruding from it, a large mass of growth. It was removed from a man aged 76, who had noticed failure of sight in the eye for two years. The fungating mass of growth had bled considerably, and the patient was in a very feeble state of health at the time of the operation; he died immediately after it was finished, while still under the influence of the anæsthetic. The globe is of normal size; the whole of its interior is filled with a mass of new growth of a soft consistency and brownish hue. The sclerotic is nowhere invaded by it. The whole cornea is absent, and passing through the globe, in the position normally occupied by it, is some new growth, which is of the same character as that in the interior of the globe. The growth expands externally into a large nodulated mass, having in it irregularly shaped cavities. Microscopical examination shows the tumour to be a round-celled sarcoma with a small amount of pigment in it.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 134.)

No. 28.—The outer half of the right eye of a man aged 70; the sight of it had gradually failed for 12 months, and during the last two months it had become painful. The tension at the time of its removal was +1. In the posterior and outer part of the globe is a pyramidal-shaped, deeply pigmented, tumour, about the size of a large cherry stone, with a broad base, where it starts from the choroid. The angle of the anterior chamber is narrowed by apposition of the root of

the iris and the periphery of the cornea. The lens, which was cataractous, has a peculiar grey band passing horizontally through the nucleus. The vitreous is much shrunk, and the retina is extensively detached from the choroid. The patient was alive and well two years and one month after the removal of the eye.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 156.)

No. 29.—The lateral half of an eye, together with a large extraocular growth. It was removed from a woman aged 35. The sight of the eye had commenced to fail four years previous to its excision; in the last six months the eye had rapidly become prominent. The shape of the eye is considerably altered, one side of it being much flattened. The interior of the globe is filled with deeply pigmented new growth, which extends forwards into contact with the back of the cornea; a small remnant of the lens with calcareous deposit in it can be seen. Posteriorly, there is a large gap in the sclerotic, through which the growth passes out and forms a large extraocular mass, which in its growth has pressed upon and flattened one side of the globe. There is some pigmented new growth within the sheath of the optic nerve, and the nerve substance is much pressed on by it. Microscopical examination shows the tumour to be a round-celled melanotic sarcoma. The patient died five months after the operation.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 158.)

No. 30.—The lateral half of the left eye of a man aged 52. Failure of sight and occasional attacks of pain had commenced in it 15 months previous to its removal. A mass is seen growing from the upper part of the choroid, and extending from the region of the ora serrata nearly up to the optic disc. It is thickest about the equator. The cut surface of it is unevenly pigmented. The retina is completely detached from the choroid, but adherent over the surface of the growth. The lens and iris are *in situ*. Microscopically the tumour is seen to be a round and spindle-celled melanotic sarcoma.

No. 31.—A portion of the outer half of the left eye of a man aged 49, who had noticed failure of sight in it for six months.

Growing in the choroid is a partly pigmented tumour, which extends from close to the margin of the optic disc posteriorly, to a little in front of the equator anteriorly. Large vascular channels are seen coursing through it, at the seat of section. The tumour is apparently entirely confined beneath the elastic lamina. The retina is raised by the growth but is not detached. Microscopically the tumour is found to be a round-celled sarcoma. The patient was alive and well 22 months after the removal of the eye.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 158.)

No. 32.—The two lateral halves of a right eye mounted in separate cells. It was removed from a man who a year previously had, while out hunting, received a blow from a twig on it, which gave rise to some retinal hæmorrhage. It was glaucomatous at the time of excision. In the outer half of the eye is seen a deeply pigmented growth about the size of a blackberry. Its base extends from the outer margin of the optic nerve to the equator of the globe. The growth has a constriction in it extending throughout its entire circumference near its base, so that it has somewhat the shape of a mushroom. In the inner half of the eye the retina, which is much plicated, is seen passing through the centre of the globe, being completely detached from the choroid, and only adherent at the optic disc and ora serrata. The vitreous is exceedingly shrunken, and the retina appears to lie in contact with the back of the lens. Both lens and iris are displaced forwards, the angle of the anterior chamber being closed by apposition of iris and cornea.

No. 33.—The two lateral halves of the left eye of a man aged 25, mounted in separate cells. He had had an injury to it from a twig 15 years previously. Failure of sight had only been noticed six or eight weeks. The tension at the time of excision was increased. Springing from the choroid by a broad base in the centre of the outer half of the globe is a brown spongy mass the size of a small cherry. It has a constriction in it near its base. The retina, which is shown in the inner half of the eyes is completely detached from the choroid, and retains adhesions only at the optic disc and ora serrata. It is apparently in contact with the back of the lens. The lens and iris are both much

displaced forwards, the angle of the anterior chamber being closed by apposition of the root of the iris to the cornea. Microscopical examination shows the growth to be a round-celled melanotic sarcoma. The patient was alive and well 17 months after the removal of the eye.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 160.)

34.—The upper and lower halves of an eyeball, the history of which is not known. They are mounted in one cell, one showing the outer and the other the inner surface. The interior of the globe is completely filled with a mass of deeply pigmented new growth, which protrudes forwards as a fungating mass, external to the globe in the region of the cornea, which structure has been entirely destroyed. The lens is absent. Posteriorly on the outer side, the growth has penetrated the sclerotic between the insertion of the two oblique muscles. The optic nerve has been cut long, the part nearest the eye being invaded by pigmented growth, which does not extend as far as its cut extremity.

No. 35.—The outer half of the left eye of a woman, aged 57. Five years previous to its removal she had had a blow on it from a fist. At the time of excision there was a large corneal abscess, and the tension was +2. During removal the cornea perforated, the lens escaped, and the eye became partially collapsed. The cornea is seen to be wrinkled, yellow, and infiltrated. The retina is detached from the choroid, remaining adherent only at the ora serrata and optic disc; it is much folded and drawn forwards. The choroid over about two-thirds of its extent is uniformly thickened by a melanotic new growth, and measures 2 mm. in width. At the lower part of the globe, in the position at which one of the long ciliary arteries perforates the sclerotic, is a small extraocular nodule of pigmented growth. New growth is also seen between the optic nerve and its dural sheath. Between the choroid and sclerotic at the upper part of the globe is some recent blood clot. Microscopical examination shows that the growth is a mixed round and spindle-celled melanotic sarcoma. Fourteen months after the removal of the eye the patient was alive and well.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 160.)

No. 36.—A ring section cut from the centre of the left eye of a woman, aged 59. She had noticed failure of vision in the outer part of her field for six months, and ophthalmoscopically a hemispherical detachment of the retina could be seen, which appeared to have behind it a solid mass. A grey coloured growth is seen springing from the choroid at a point about midway between the ora serrata and the optic disc. It measures about 10 mm. across. The retina passes closely over the surface of the growth, and is nowhere detached from the choroid. The angle of the anterior chamber is narrow, but not closed. Microscopically the growth is found to be a spindle-celled sarcoma.

No. 37.—The lateral half of the right eye of a man, aged 64. He had noticed failure of sight in it for seven months. The tension at the time of its removal was increased. A large growth, which occupies rather more than a third of the interior of the globe, springs by a base from the upper part of the choroid, and extends from the hindmost of the ciliary processes backwards to within about 8 mm. of the optic nerve. Its section is of a greyish colour, with here and there light patches. There is a marked indentation in the tumour posteriorly. The retina is detached from the choroid. The posterior surface of the lens is pressed upon by the tumour and the angle of the anterior chamber is narrowed. Microscopically the growth is seen to be a melanotic spindle-celled sarcoma. Eight months after the removal of the eye the patient was alive and well.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 162.)

No. 38.—The inner half of the left eye of a man, aged 35. He had noticed a defect in the sight of it for eight months, but it had only become painful a week previous to its removal. A deeply pigmented tumour is seen growing from the lower part of the choroid, by a base which extends from the hindmost of the ciliary processes to the margin of the optic disc. It fills about half the interior of the globe. The section of the growth shows it to have a peculiar foliated arrangement, resembling the convolutions of the brain. The retina is pushed in front of the growth, and detached elsewhere from the choroid. The lens



FIG. 13.—Specimen 38, showing the peculiar foliated arrangement of the tumour at the seat of section.

has fallen out of the specimen in the process of mounting. Microscopically the growth is found to be a mixed round and spindle-celled sarcoma. The patient was alive and well seven months after the removal of the eye.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 162.)

No. 39.—The lateral half of the left eye of a milkman, aged 50, who dated the defect of sight in it from five months previous to its removal, when he received a blow on it from a cow's tail. A week before excision the eye became painful and glaucomatous. Filling three-fourths of the interior of the globe behind the lens is a buff-coloured mass of new growth of soft uniform consistency. It springs by a base 15 mm. wide from the posterior part of the choroid around the optic disc; it then narrows into a thin neck, and again expands into a large circular mass. No trace of the retina can be distinguished in the specimen; blood clots fill the space between the tumour and the lens, which, together with the iris, is much pressed forwards. The anterior chamber is very shallow, and contains blood clots. Microscopically the growth is seen to be composed of oval and round

cells. It is exceedingly vascular; in places the vessels have well defined walls, in others the structure of the growth resembles nævoid tissue. It may be best described as a nævo-sarcoma.

No. 40.—The lower half of an eyeball with a large mass of extraocular growth. It was removed from a man aged 46, who first noticed failure of sight in the eye 18 months previously. During the last six months it had been inflamed, and had gradually increased in size. Starting from the choroid and filling half the interior of the globe behind the lens is a mass of deeply pigmented new growth. It passes through the sclerotic about its equator, and forms a large mass external to the globe, which presses upon but does not invade the optic nerve. The vitreous is much shrunken. The retina is detached from the choroid. The angle of the anterior chamber is much narrowed by adhesion of the root of the iris to the cornea. In the choroid, in the outer half of the globe, there are numerous scattered small circular black patches. There was a large recurrence of the growth in the orbit six months later.

No. 41.—The inner half of the left eye of a woman, aged 55. Failure of sight had been noticed in it for about three months previous to its removal. At the time of excision the tension was increased and the eye painful. The anterior chamber is exceedingly shallow, and its angle is closed by apposition of the root of the iris to the cornea. Springing from the choroid by a base that extends from the equator to the margin of the optic disc, is a deeply pigmented growth, which has a constriction in it, and then expands into a rounded knob, that reaches to about the middle line of the globe. The retina is completely detached from the choroid, from the optic disc up to the ora serrata, but is attached to the apex of the growth.

Subseries (F).—Starting in the Retina.

Tumours of the retina may be either cystic or solid. Cystic growths of the retina are most commonly met with in eyes which have been blind for some years, and in which the retina is detached (Nos. 1, 2, 3, and 4). In the

retinæ in which they form there is considerable increase of the fibrous tissue and atrophy of the nervous elements; they are also oedematous, the tissue of which they are composed being much spaced out. It is probable that this oedema of the retina is due to atrophic changes in the nerve, causing constriction of the thin-walled central veins and retardation in the exit through it of the blood. The cysts are the result of the oedema, the larger spaces breaking into one another, and the thin-walled cavities so formed readily expanding into spaces visible to the naked eye. Several cysts are sometimes met with in one retina (Nos. 1, 2, and 3); they generally protrude from its outer wall (Nos. 1, 2, and 3), but may be located in its centre (No. 4).

By far the commonest form of solid growth starting in the retina is what is known as glioma; in the recent state and in an early stage of its growth it is of pingish-grey colour, and has a brain-like consistency. In the process of hardening it becomes more opaque, and assumes a yellowish hue. It is a rapidly growing form of tumour, and its tissue rapidly degenerates; the first sign of degeneration can be detected in microscopical sections by the nuclei of the cells staining less readily with log-wood, so that the stained specimen presents a patchy appearance.

Later on signs of fatty degeneration can be distinguished with the naked eye as opaque yellowish-white markings (Nos. 8, 10, 11, 16, 17, and 18). In some of the growths calcareous changes are found, the chalky patches being rendered evident by their grittiness and extreme whiteness (No. 10). When the growth is very degenerate it becomes quite flocculent in consistency (Nos. 5, 6, 12, 13, and 17).

In some eyes glioma starts as a localised tumour in one portion of the retina (Nos. 8, 9, and 20), in others it is more diffuse, beginning as a uniform thickening over a wide area (Nos. 7, 10, and 16). Occasionally it begins in

several different places at the same time, giving rise to a nodulated condition of the surface of the retina (Nos. 15 and 21). A glioma starting in the retina may commence either in its inner or its outer layers; if in the former it tends to grow inwards towards the vitreous chamber, *glioma endophytum* (Nos. 6, 9, 11, and 20); if in the latter, outwards between the retina and choroid, *glioma exophytum* (Nos. 8, 18, 19, and 21). In *glioma endophytum* little separate isolated nodules of growth often form in the vitreous chamber (Nos. 8, 12, 14, 16, and 20). These nodules previous to excision can be seen with the ophthalmoscope. Sometimes they are mobile. The growth when it springs from the inner surface of the retina, appears as a ragged, nodulated mass far back in the eye, and being in front of the retinal vessels conceals them from view. Occasionally large hæmorrhages in the vitreous may be associated with this form of growth (No. 20).

When the tumour grows from the outer surface of the retina, that structure becomes pushed in front of it and detached from the choroid, the vitreous shrinking. In such a case, clinically, the smooth surface of the retina, rendered yellow and opaque by the growth behind, is seen with its blood-vessels far forwards immediately posterior to the lens. The space formed by the detachment of the retina from the choroid is often greater than that occupied by the growth, and is filled up with serous fluid (Nos. 8, 15, 18, and 21). When the outer surface of the retina is involved by a gliomatous tumour the membrane of Bruch may become perforated and the growth extend into the choroid (Nos. 6, 10, and 17). It may even infiltrate through the sclerotic and form an extraocular mass (No. 10 and Series III, Subseries C, No. 10). A more frequent way for glioma of the retina to find exit from the eye is along the track of the optic nerve. Growth in the nerve can be recognised by the naked eye, for not only does the nerve become enlarged, but it presents an unnatural grey colour on section (Nos. 6, 7, 9, 10, 15, and 17). Micro-

scopically the glioma cells are seen to replace the nerve fibres, leaving the trabecular network of fibrous tissue uninvolved. Not uncommonly gliomatous growth finds its way into the space between the pial and dural sheaths of the nerve, along which it extends backward.

As a glioma of the retina continues to grow, the lens and iris become pressed forwards and the anterior chamber shallowed, its angle being closed by the apposition of the root of the iris to the cornea (Nos. 7, 13, 15, 17, and 18). Increase of tension then ensues. The cornea and sclerotic in young eyes being very elastic, readily expands, and the whole globe becomes enlarged (Nos. 6, 10, and 17), the condition known as buphthalmos sometimes being produced (Series III, Subseries C, No. 10), and at other times a staphyloma at the sclero-corneal margin (No. 13).

If the eye is not excised the growth will extend into the anterior chamber (Series III, Subseries C, No. 10), perforate the cornea, and form a large fungating mass anteriorly, to which condition the termed *fungus hæmatoides* was formerly applied.

Glioma of the retina is a form of growth which only occurs in childhood, never after the 11th year, and usually in infancy. There is, however, one exceptional specimen of a solid growth of the retina in this collection occurring in the eye of a woman aged 65; its microscopical characters presented certain decided differences to those of an ordinary glioma of the retina (No. 22).

No. 1.—The lateral half of the left eye removed from a woman, aged 41. Fourteen years previous to excision it had been struck with a fist, after which it went blind, and had remained so ever since. The last five months it had become painful. The pupil is widely dilated; there is some ectropion of the uveal pigment. The anterior chamber is of good depth, but its angle is narrowed by the adhesion of the root of the iris to the periphery of the cornea. The lens is *in situ* and the vitreous is much shrunken. The retina is completely detached from the optic disc up to the ora serrata; it passes through the

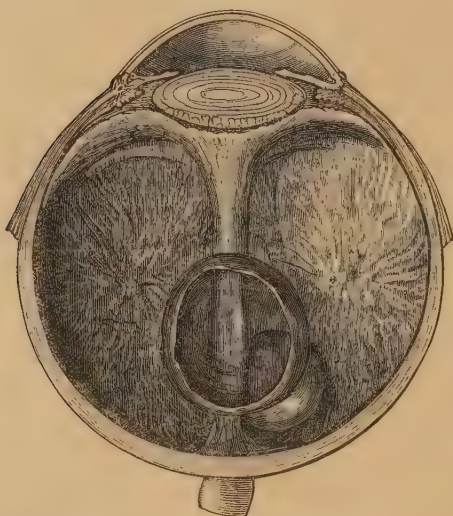


FIG. 14.—Specimen 1, showing cysts protruding from the outer surface of the detached retina.

centre of the globe as a thin, round cord which expands anteriorly. From the posterior part of the detached retina two thin-walled transparent cysts project; the largest is about the size of a currant. When the eye was first opened they contained an opaque gelatinous substance. The choroid is thin, but otherwise healthy.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 68.)

No. 2.—The outer half of the right eye from a man, aged 30. It had been blind for seven years as the result of inflammation. A week before excision he injured it with his finger, and it had become painful. The anterior chamber is of a good depth, and its angle is open. The lens is of a uniform white colour, and of stony hardness throughout. The vitreous is much shrunken. The retina is detached from the ora serrata up to the optic disc. Protruding from its outer surface are several small thin-walled cysts, one of them is of a brownish colour; in the choroid opposite to it there is a patch of atrophy and considerable disturbance of the pigment epithelium.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 68.)

No. 3.—The lateral half of the right eye of a man, aged 48. Twenty years previous to excision he received a blow on it from a fist; a cataract formed which, two years later, was operated on. He had no sight in the eye after the operation. The last eight weeks it had become painful. There is a staphyloma posteriorly at the inner side of the optic disc where there is considerable atrophy of the choroid. The optic disc is markedly cupped. The iris is much shrunk, its root is adherent to the periphery of the cornea, and there is marked ectropion of the uveal pigment. The retina is shrunk and detached everywhere from the choroid; it only retains adhesions to the optic disc and to the ora serrata on one side of the specimen; protruding from its outer surface are two thin-walled cysts.

No. 4.—The outer half of the left eye of a man, aged 32. Thirteen years previous to its removal it had been injured with a piece of gun-cap; eight years later it became inflamed, and the sight failed completely. The last month it had been again inflamed and painful. The lens is absent. There are some blood-clots in the anterior chamber about the iris and in the anterior part of the vitreous. The vitreous is much shrunk. The retina is detached from the choroid, from the optic disc up to the ora serrata; on one side there is a large oval cyst in it which projects as much towards the vitreous chamber as towards the subretinal space. Some blood-clots lie on the inner surface of the choroid.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 68.)

No. 5.—The lateral half of the left eye of a boy, aged $3\frac{1}{2}$. Seven months previous to excision something white was first noticed in his eye by his parents. The specimen is not well preserved and is somewhat flattened from before backwards. A tumour of a flocculent consistency and greyish colour is seen growing from the inner surface of the retina and nearly filling the vitreous chamber. Microscopically it presents the typical appearances of a gliomatous growth. The patient was seen 19 years after excision, and no recurrence of the growth had taken place.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 20.)

No. 6.—The lateral half of the left eye and portions of the left optic nerve from a child, aged 2 years. When 6 months old she was brought to the hospital and glioma of the retina was diagnosed. The globe is enlarged and the sclerotic thinned. Springing from the inner surface of the retina, and filling a great portion of the vitreous chamber, is a flocculent, grey-coloured growth. Posteriorly it has invaded the choroid, causing considerable thickening of it. The optic nerve is also involved; two sections of it are preserved, one taken from close to the eyeball and one some little distance further back; the former is markedly larger than the latter. Three weeks after excision the child died with recurrences over the left brow and in the mouth.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 26.)

No. 7.—The outer half of the left eye of a child, aged $4\frac{1}{2}$. At the time of excision it was quite blind and the tension was slightly raised. A new growth of a greyish colour, with a granular surface, involving the retina, extends from a point close to the optic disc as far forwards as the ora serrata. Its inner margin is slightly within the median line, and its anterior surface is in contact with the back of the lens. The upper part of the retina can be seen wrinkled, detached, and uninvolved by growth. Springing from the optic disc is a small nodule of growth which, unlike the larger mass, is growing into the vitreous. Four years and seven months after the operation the child was reported to be alive and well.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 30.)

No. 8.—The lateral halves of the two eyes of a boy, aged 5 months at the time of excision of the right, and 3 years and 5 months at the time of excision of the left. A month previous to excision the mother noticed a white appearance in the right. After its removal his health improved; and it was not until three years later that she noticed a similar appearance beginning in the left eye. The right eye is considerably smaller than the left, and in it the lens and iris are pressed forwards, so that the anterior chamber is almost obliterated. The vitreous is very shrunken and the retina is complete'y

detached from the ora serrata up to the optic disc; anteriorly it is apparently in contact with the back of the lens. From the outer surface of the detached retina on one side, springs a greyish-yellow coloured growth speckled with white dots. Between the detached retina and the choroid is some grey gelatinous substance. In the left eye on the inner surface of the retina are numerous round, grey, flocculent nodules of new growth. The retina is also raised in places by masses of new growth on its outer surface. A portion of the retina which has been cut away allows of this being seen. The growth does not come anywhere near the optic disc.

No. 9.—The lateral half of the left eye of a girl, aged 14 months at the time of its removal. Her right eye had been excised when she was 3 months old for a glioma of the retina. The vitreous chamber is filled for about a third of its extent by new growth which is springing from the inner surface of the retina. The papilla of the optic nerve is surrounded and involved by the growth. Three years after the enucleation of the second eye the patient was alive and well.

(Recorded in R.L.O.H. Reports, vol xiii, p. 34.)

No. 10.—The outer half of the right eye of a boy, aged 2; a growth in it was first noticed a year previous to excision. The eyeball is considerably enlarged, a new growth filling about two-thirds of the cavity of the globe behind the lens, and almost completely replacing the retina. It is in contact with the back of the lens anteriorly and invades the choroid posteriorly. The section of the growth presents a very mottled grey and white appearance. In the anterior part there are numerous white patches, due to calcareous deposit. Microscopically the optic nerve was extensively invaded by tumour cells. A recurrence of the growth occurred in the orbit less than three months after excision, and eight months later the child died.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 32.)

No. 11.—The lateral half of the right eye of a child, aged 6; it had been blind for four months previous to excision. Filling nearly half the vitreous chamber is a yellowish-white coloured

tumour springing from the inner surface of the upper part of the retina.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 26.)

No. 12.—The lateral half of the right eye of a girl, aged 6 ; something was first noticed to be wrong with the eye seven months previous to excision. The lens is considerably flattened antero-posteriorly, but was clear in the recent state. The retina is indistinguishable, being entirely involved in a friable yellowish-grey coloured new growth. The vitreous is much shrunk, and has some nodules of new growth in it immediately behind the lens. The child died about three years after excision of the eye.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 28.)

No. 13.—The lateral half of the left eye of a girl, aged 6 ; a year previous to excision she fell and struck the eye, after which the sight of it was first noticed to be defective. The last few days it had become painful. The sclerotic at the upper corneal margin is staphylomatous. The staphyloma does not involve the ciliary body, but ends posteriorly at the ciliary processes. The whole of the inner surface of the bulging part is lined by the atrophied root of the iris. The angle of the anterior chamber on both sides of the specimen is closed. The lens has dropped out of the specimen in the course of its preparation. A nodular growth of friable consistency occupies about half the vitreous chamber, replacing in great part the retina. There are patches of new growth on the inner surface of the choroid.

(Recorded in R.L.O.H. Reports, vol. xiii, p. 28.)

No. 14.—A portion of vitreous from the eye of a boy, aged 3, which was removed for glioma of the retina. Previous to removal, floating white masses could be seen in the vitreous and also small white dots which stood out plainly against the red fundus reflex. These white dots, which are nodules of gliomatous growth, are shown in the specimen, the largest being the size of a pin's head and the smallest only just visible to the naked eye. Three years after excision the child was stated to be alive and well.

(Reported in R.L.O.H. Reports, vol. xiii, p. 36.)

No. 15.—The inner half of the right eye of a boy, aged 7, which was quite blind, and with the tension increased, at the time of the excision. The angle of the anterior chamber is closed by adhesion of the root of the iris to the periphery of the cornea. There is some ectropion of the uveal pigment at its pupillary margin. The vitreous is shrunk and the retina detached from the optic disc up to the ora serrata; it is much thickened with nodules of a grey coloured new growth. The portion of the optic nerve left attached to the globe is much enlarged, and on section has a greyish hue. Microscopically the nerve substance is seen to be in great part replaced by glioma cells; there is also a mass of similar cells between the pial and dural sheaths. The patient died 10 months after the removal of the eye, with a recurrence in the orbit and growths in the brain, neck, and left eye.

No. 16.—The outer half of the right eye of a boy, aged 6 years. Ophthalmoscopically a white mass was seen behind the lens, and also several small floating nodules. The retina in its lower two-thirds is considerably thickened by a new growth of a mottled, greyish-white appearance on section. It is rucked and folded, but not completely detached. In the vitreous immediately behind the lens is a yellow, opaque nodule. In parts the growth seems to have sprung chiefly from the outer surface of the retina, in others it seems to thicken it uniformly.

No. 17.—The inner half of the left eye of a boy, aged 2. His mother stated that it had always appeared different to his other eye, but that the last fortnight it had become red. The eyeball is enlarged, its antero-posterior diameter being much increased. The sclerotic is thinned anteriorly. The root of the iris is adherent to the periphery of the cornea at the seat of section for some considerable distance. There is a large amount of blood clot in the anterior chamber. The whole interior of the globe posterior to the lens is filled with new growth which has completely replaced the retina. The anterior part of this growth is very flocculent and mixed with blood clot. Posteriorly it is of a mottled greyish-white colour, and is invading the

choroid and inner layers of the sclerotic. The portion of the optic nerve left attached to the globe is grey in colour and enlarged. The patient died three months after excision of the eye.

No. 18.—The lateral halves of the two eyes of a boy, aged 1 year and 2 months; they are both mounted in one cell. Six weeks after he was born his mother stated that she noticed that his left eye (the shrunken one) seemed to have a hole in it. Previously it had been quite well, and at no time was there any discharge from the eyes. The left eye gradually shrank. When he was eight months old she found his right eye was defective. The left eye is a small shrunken globe, the cornea and sclerotic are much thickened, no iris can be distinguished, the lens is absent, the whole interior of the globe is filled with a grey coloured growth, the microscopical appearances of which are characteristic of glioma. The right eye is of normal size, the retina is completely detached and apparently in contact with the posterior surface of the lens, from it grows an irregular grey coloured mass with white patches in it. This mass is not in contact with the cornea. The anterior chamber is very shallow, its angle being closed.

No. 19.—The lateral halves of the two eyes of a patient, aged 7 months. Three weeks before excision the mother first noticed something wrong with the patient's right eye. Her statement was that it looked transparent. Four or five days later she saw a similar appearance in the left. The right eye (*a*) was opened whilst it was fresh and subsequently hardened. In it the retina is detached and in contact with the posterior surface of the lens. Growing from it, and filling nearly the whole of the interior of the globe behind the lens, is a soft grey mass. The left eye (*b*) was hardened before it was opened; in it the retina is also detached and apparently in close contact with the lens. The new growth, of a grey colour on its outer surface, is not so extensive as in the right eye. Microscopically the growth in each eye presents the typical appearances of *glioma retinae*; the optic nerve is seen to be affected up to, but not beyond, the lamina cribosa. Three years

and a half later the child was in excellent health, and there had been no return of the growth.

No. 20.—The outer half of the right eye of a girl, aged 4 years. Three weeks previous to excision, the mother first noticed something white in it. On examination the child was found to have no perception of light with that eye, the tension was increased, and several oscillating nodules were seen ophthalmoscopically behind the lens, in addition to a white mass and a large blood clot. Growing from the inner surface of the retina is an irregularly grey coloured mass which, microscopically, is seen to be composed of characteristic glioma cells. This new growth has apparently started from the inner nuclear layer. There are several small round secondary nodules of growth, composed of the same shaped cells, in the vitreous. The retina is everywhere *in situ*; on its inner surface at the lower part is a dark coloured hæmorrhage. Three years and three months later there had been no recurrence of the growth, and the child was quite well.

No. 21.—The inner half of the left eye of a boy, aged 3 years. His mother had noticed that his right eye had turned in ever since he was born. She thought it had been getting larger for one month; it had been blind one week. The whole retina is detached from the optic disc up to the ora serrata. On its outer surface are numerous little nodules of growth. Its inner surface appears to be in contact with the back of the lens. The inner surface of the choroid is speckled with dots of dark pigment. Microscopically the growth is seen to be a glioma. Three years and four months after excision there had been no return of the growth, and the child was in good health.

No. 22.—A thick section from the centre of the right eye of a woman, aged 65. The specimen is divided into two halves. Four years previous to its removal she first noticed pain and failure of sight in it. The pain had become very acute during the last week; at the time of excision the T. was +3, and she could not tell light from dark with it. The iris and ciliary body have become somewhat displaced

backwards in the preparation of the specimen. The whole interior of the globe posterior to the lens has become filled with a mass of fawn-coloured new growth, it is of a soft, flocculent consistency, and has some small patches of hæmorrhage in it. It has entirely replaced the retina and vitreous. Microscopically the vascular supply is seen to be derived from vessels which radiate from the optic disc; it is everywhere traversed by vascular channels with thin walls, arranged radially, around which are nucleated cells, mostly very degenerate.

(Recorded in the Trans. Ophth. Soc., vol. xii, p. 165.)

Subseries (G). Starting in the Optic Nerve.

Tumours of the optic nerve are of rare occurrence, but are very various in their microscopical characters; some have been described as sarcomata, some as myxomata, and others as gliomata. They may arise in the dural or pial sheaths, or in the nerve itself. The only one contained in this collection probably started in the pial sheath, or in the loose tissue between it and the dural sheath, the nerve being only secondarily involved.

The outer half of an eyeball with a tumour growing from the optic nerve attached to it. It was removed from a boy, aged 12. Two months previous to its removal he first noticed that his left eye was larger than his right. It gradually increased in size, and his sight gradually failed. Previous to excision the left eye was found to be proptosed, being displaced forwards and downwards; its movements were good. A hard mass could be felt at the upper and inner part of the orbit extending backwards. The optic disc was white, its margin blurred, and the retinal veins large and tortuous. The lens has fallen out of the eye, and its tunics have become somewhat displaced in the preparation of the specimen. There are no pathological changes in it. Behind the globe in the sheath of the optic nerve is a tumour extending back from the sclerotic a distance of 23 mm. It is irregularly pear shaped, with the smaller end forwards, and measures in its widest diameter 18.5 mm. The cut section of the growth shows the nerve passing through it. There is a fusiform swelling of it, which

begins close to the papilla, and increases rapidly. It is widest about 9 mm. from the sclerotic, where it measures 10·5 mm. vertically. It narrows down again to the point where it is divided, but it is there of a greater diameter than normal. Between the dural sheath and the nerve is a new growth with a somewhat speckled surface. It appears to be intimately connected with the nerve, and only loosely so with the sheath. Though surrounding the nerve completely, the greater part of it is situated on its upper surface. Microscopically the growth is seen to be a sarcoma of loose connective tissue type, which in parts is undergoing myxomatous degeneration.

(Recorded in R.L.O.H. Reports, vol. xii, p. 1.)

ON THE IMMEDIATE AND REMOTE RESULTS OF CATARACT EXTRACTION.

By C. DEVEREUX MARSHALL, Curator.

As a good deal of confusion exists in the minds of many people with regard to the result obtained after the operation of extraction of senile cataract in spite of the great amount of literature that exists on the subject, I shall endeavour in the following pages to discuss the matter and to bring forward a record of the cases that have been treated at the Royal London Ophthalmic Hospital for five years, from 1889 to 1893.

I have chosen these years for investigation for the purpose of bringing our knowledge well up to date, and also because antiseptic agents have been rigidly employed; now these have had almost as marked an effect in ophthalmic as in general surgery, notwithstanding the special difficulty that one has to contend with in disinfecting the conjunctival sac and rendering the eye and the surrounding parts aseptic, owing to the delicate structures met with. There is, however, one point of the greatest importance in ophthalmic surgery, and one which perhaps more than any other external condition governs the results, and that is the care which is taken in avoiding the infection of the eye by any instruments which are used.

Among the patients upon whom we have to operate, there are many unfavourable conditions to deal with.

In the first place they are most of them old and their tissues lack that vitality which so greatly favours the repair of wounded and damaged parts. Many others have some definite and organic affection such as albuminuria, or diabetes, and this is a matter of no slight importance when considering the desirability of performing a surgical operation. See Table VII.

In the second place we have to operate upon an organ

which cannot be considered to be in a healthy condition. The criterion of health of the crystalline lens is its transparency, therefore when the lens is opaque it shows that it has been subjected to processes which have materially affected its nutrition, and although the other structures of the eye do not show it in the same way, yet they have been exposed to the same conditions which have led to the production of cataract.

In comparing the results obtained in recent years with those of the past, we must remember that a large number of cases can now be operated upon with greater or less success which in the pre-antiseptic days would have been considered unfit for surgical interference. Many eyes have their lenses removed which are well known to have serious diseases quite apart from senile cataract, but the risk of suppuration and other untoward events supervening becomes so reduced, that one is justified in undertaking a serious operation with a fair prospect of materially benefiting the patient, although it is known there is no possibility of restoring the vision to anything like the normal standard; therefore the percentage of successes is considerably lowered by taking such cases into consideration.

Before proceeding further it may be well to state briefly the usual method of preparing a patient and the means adopted before, during, and after the operation in order to prevent infection from without.

I shall here only mention the special points connected with the eye, the general examination and preparation of the patient being precisely the same as that adopted previous to the performance of any surgical operation. The lids and parts around the eye are carefully washed with soap and hot water overnight, and then a pad which has been wrung out in a 1/4000 solution of the perchloride of mercury is applied. On removing this the next morning one is able to obtain a good idea as to the state of the conjunctiva; if the lids be gummed together the opera-

tion is deferred until a more satisfactory state of things is obtained. If, however, there is nothing to contraindicate the performance of the operation the eye is anæsthetised with a 2 per cent. solution of freshly prepared cocaine and the conjunctival sac is washed out with a good stream of either warm boracic or perchloride lotion. The instruments are boiled before being used and kept in carbolic acid lotion 1—40.

After the operation both eyes are, as a rule, closed for a day or two and tied up with pads of Gamgee tissue made of the double cyanide wool. The operated eye is kept bandaged for about a week, and after that dark goggles are worn.

Most of the cases recorded here have had iridectomy done at the time of the extraction. Some have had a preliminary iridectomy performed a few weeks before the removal of the lens, while others have had no iridectomy at all. The lens capsule has usually been opened with the cystotome but occasionally the anterior capsule has been torn away with Förster's forceps, while in others the capsule has been opened by a peripheral section with a Graefe's knife and the face of the capsule has remained intact. The sections were almost without exception made upwards, and in the majority of cases a conjunctival flap was cut.

Cases which do well remain in the hospital about two weeks, and what is indicated in the tables by the "immediate vision" is the vision obtained just before the patient leaves.

The remote vision is taken at a variable time after the operation, seldom less than 6—8 weeks, and often not until several months have elapsed. I am sorry that so many blanks appear in this column, but numbers of people come from a considerable distance for the operation and then returning home, get tested for glasses elsewhere, so that we do not again see them, and it is practically impossible to obtain the ultimate results of these operations.

This is unfortunate, for everyone knows how often the vision improves during the first few months after extraction; so that probably there are many cases here recorded with very indifferent "immediate vision," who in reality are going about and seeing quite well. The converse can hardly be said to hold, viz., when the vision deteriorates, &c., for as a rule these patients return for advice and then defective vision is noted, and this again tends to lower the percentage of successful cases.

I have used my utmost endeavour to get the remote visions in all cases, and have written to those whose visions have not been recorded, and thus have been enabled to see and test many people who had never been to the hospital since the extraction. I found that almost without exception the people who had not been up, had quite good vision, and I hardly saw a patient whose eye had undergone any marked sign of degeneration; this again showed that most of the unsuccessful cases came up of their own accord, while the successful cases frequently never gave the chance of a later examination.

During the five years, 1889 to 1893, there have been 1,519 cases of cataract extraction. The majority (1,091) have had iridectomy done at the time of the extraction. Some (257) were extracted without an iridectomy being done at all, and the remainder (161) were done after a preliminary iridectomy.

TABLE I.

Year.	Total.	Number with iridectomy.	Number without iridectomy.	Number after preliminary iridectomy.	Number after previous iridectomy for disease.
1889.....	310	247	34	28	1
1890.....	280	197	47	33	3
1891.....	308	177	96	33	2
1892.....	293	204	56	31	2
1893.....	328	266	34	23	5
—	1519	1091	267	148	13

Percentage of above Table.

1889.....	—	79·67	10·96	9·03	0·32
1890.....	—	70·35	16·78	11·78	1·07
1891.....	—	57·46	31·16	10·71	0·64
1892.....	—	69·62	19·11	10·57	0·68
1893.....	—	81·09	10·36	7·01	1·52
—	303·88	71·64	17·67	9·82	0·85

There are one or two points which must be noted with regard to the operation that was performed. Those cases in which the lens was extracted without an iridectomy are to a certain extent picked cases, that is to say, they include but few where previous disease had existed, or where there was reason to believe that the eye was unhealthy. Those cases in which iridectomy was done at the time of the extraction include a large number of eyes which were to all appearances healthy, except for the presence of the cataract, but there are also in this group a good many cases in which signs of previous disease were manifest.

Those cases in which extraction was done after preliminary iridectomy include a very large number where disease was known to have existed, and many other cases where the eye was permanently damaged before the operation for the removal of the cataract was undertaken.

The percentages of vision were taken from the total number of recorded cases (1,257) and not from the total number of cases operated upon; this applies to some of the other items as well.

The cases included in the first group ($V. = 6/6$ and $J. 1$ to $6/18$ and $J. 6$) are chiefly taken from the column of remote visions (see large table), but when the immediate vision indicates that the operation has been undoubtedly successful it has been included. Unless such a case has a vision of at least $6/24$, it has been classed among the unrecorded cases, there being but little doubt that a patient who can see $6/24$ within two weeks, or thereabouts, of an operation for extraction will in a short time be able to see $6/18$, and very possibly still more.

If a patient's immediate vision equals "hand-movement," or even less, and there is a condition present which makes one practically certain that it will never be better, I have included it in the third column (hand-movement and less). The two intermediate columns include only those cases in which vision at a remote period has been recorded. If a case is noted to have hand-movement as an immediate result, while the remote vision is unrecorded, and it is stated also that lens matter is present which would account for the bad sight, such a case I have included in the list where there is no vision recorded. The percentage of vision resulting after the three chief varieties of operation brings under notice one or two interesting facts. See Table II.

In the first column ($V. = 6/6$ $J. 1 - 6/18$ $J. 6$) we see that the operation without iridectomy gives the highest percentage (78.38) but as has been pointed out, the cases included in this list contain but few which show any marked sign of disease, and it is certain that this group has a higher percentage of cases favourable for operation than the other two.

However, the second group of cases, in which the iridectomy was done at the time of the extraction, does

not fall very far short of the preceding (76·28) in spite of the fact that we certainly have a good number of unfavourable cases.

The third group, in which preliminary iridectomy was done, does fall considerably below the other two (73·20) but we have here a much higher percentage of unfavourable cases.

In the fourth column (V. = hand-movement and less) there is a rather marked difference. The highest percentage is in the group of extractions after preliminary iridectomy (5·99), and for the reason above mentioned this is much what one would expect. But we find that in those cases in which no iridectomy was done the percentage very nearly equals it (5·53), while in those in which the iridectomy was done at the time of the extraction it is lowest of all (4·95). This I take it is distinctly in favour of the operation with iridectomy.

In the second column of visions (V. = 6/24 — 6/60), the percentages are about equal.

In the third column (V. = 5/60 to counting fingers) there is again a marked difference; the group of cases in which no iridectomy was done contains only 2·47 per cent., while the groups with iridectomy and after preliminary iridectomy contain 5·21 and 6·69 per cent. respectively.

These figures go to prove an observation frequently made that cases of extraction without iridectomy when they do well give the best possible results, but should any complication occur they generally do much worse than those in which an iridectomy has been performed. If we now include as successful those cases which have vision of at least 6/60, as Knapp and other surgeons have done, we find the following result:—

- | | |
|-------------------------------------|-----------------|
| (1.) Extractions without iridectomy | 91·97 per cent. |
| (2.) Extractions with iridectomy | |
| done at the same time | 89·81 ,, |
| (3.) Extractions after preliminary | |
| iridectomy | 87·29 ,, |

but what we have said about the selection of cases must be borne in mind.

TABLE II.

Results of Extractions with Iridectomy.

Year.	Number of cases.	V. = 6/6 J. 1 to 6/18 J. 6.	V. = 6/24 to 6/60.	V. = 5/60 to counting fingers.	V. = hand- movement and less.	No vision recorded.
1889..	247	135	33	10	11	58
1890..	197	118	16	9	11	43
1891..	177	115	20	6	4	32
1892..	204	134	19	9	12	30
1893..	266	178	35	13	5	35
—	1091	680	123	47	43	198

Results of Extractions with Preliminary Iridectomy.

1889..	28	15	7	—	2	4
1890..	33	22	2	2	1	6
1891..	33	20	1	4	1	7
1892..	31	20	4	3	1	3
1893..	23	14	3	—	2	4
—	148	91	17	9	7	24

Results of Extractions without Iridectomy.

1889..	34	17	6	2	1	8
1890..	47	33	6	1	1	6
1891..	96	74	10	—	3	9
1892..	56	37	3	1	4	11
1893..	34	26	4	—	3	1
—	267	187	29	4	12	35

Results of Extractions after Previous Iridectomy for Disease.

1889— 1893	13	1	4	1	2	5
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TABLE II (*continued*).*Results per cent. of Extractions with Iridectomy.*

Year.	Number of recorded cases.	V. = from 6/6 J. 1 to 6/18 J. 6.	V. = from 6/24 to 6/60.	V. = from 5/60 to counting fingers.	V. = hand-movement and less.	Average number of recorded cases.
1889..	189	71·42	17·46	5·29	5·82	—
1890..	154	76·62	10·38	5·84	7·14	—
1891..	145	79·31	13·79	4·13	2·75	—
1892..	174	77·01	10·91	5·17	6·89	—
1893..	231	77·05	15·15	5·62	2·16	—
—	893	76·28	13·53	5·21	4·95	178·6

Results per cent. of Extractions with Preliminary Iridectomy.

1889..	24	62·50	29·16	—	8·33	—
1890..	27	81·48	7·40	7·40	3·70	—
1891..	26	76·92	3·84	15·38	3·84	—
1892..	28	71·42	14·28	10·71	3·57	—
1893..	19	73·68	15·78	—	10·52	—
—	124	73·20	14·09	6·69	5·99	24·8

Results per cent. of Extractions without Iridectomy.

1889..	26	65·38	23·07	7·69	3·84	—
1890..	41	80·49	14·63	2·43	2·43	—
1891..	87	85·05	11·49	—	3·44	—
1892..	45	82·22	6·66	2·22	8·88	—
1893..	33	78·78	12·12	—	9·09	—
—	232	78·38	13·59	2·47	5·53	46·4

In Table III we see the number of males and females, and the number of right and left eyes that were operated upon.

There were 117 more females than males, but when one takes into consideration the fact that there is a larger proportion of women in the population, the difference in the percentage would not really be very great.

There were rather more right eyes operated upon than

left, possibly due to the fact that most right-handed surgeons when they have the choice of operating upon two eyes equally affected usually prefer to do the right.

TABLE III.

Table showing the Sex of the Patients and the operations on the Right and Left Eyes.

Year.	Number of cases.	Male.	Female.	Right.	Left.
1889.....	309	146	163	154	155
1890.....	282	131	151	158	124
1891.....	307	130	177	151	156
1892.....	293	133	160	147	146
1893.....	328	161	167	177	151
—	1519	701	818	787	732

Percentage.

	Average				
1889—1893....	303·8	46·14	53·86	51·81	48·19

Table IV shows the number of cases in which a prolapse of the iris occurred after extraction with and without iridectomy.

Here, as we should expect, the latter operation will not bear comparison with the former; in the one case we have 13·86 per cent., while in the other only 0·87 per cent.

It has been suggested that the cause of so many prolapses after extraction without iridectomy is the fact that the operation at Moorfields is not done with the patient in bed, and that the movements made after the extraction cause the prolapse. This view, however, cannot be substantiated by fact. I have frequently examined a case within an hour or more of the operation when the patient is back in bed, and (provided there has been a good conjunctival flap) found the anterior chamber re-formed, the wound closed, and the pupil circular. Yet a few hours

later the iris has become prolapsed and the anterior chamber obliterated. This is probably brought about by the patient squeezing the lids or making some slight movement of the facial muscles sufficient to cause a little extra pressure on the globe; the result is that the wound is opened, the aqueous escapes and carries the iris with it. A second iridectomy has then to be done under very unfavourable conditions and often with the aid of a general anæsthetic. This is the usual way in which prolapse occurs, but there is still another way, and I now refer to those cases in which the iris remains in position for several days; the pupil is seen to become more and more pushed up to the wound, and finally a prolapse takes place. Many of those cases are due to soft lens matter having been left behind after the bulk of the lens has been removed; this is out of reach, as it is underneath the iris, and as time goes on it swells and causes a prolapse.

TABLE IV.

Showing cases of Prolapse of Iris after Cataract Extraction.

Year.	Number of cases of prolapse after extraction without iridectomy.	Number of cases of prolapse after extraction with iridectomy	Percentage of prolapses after extraction without iridectomy.	Percentage of prolapses after extraction with iridectomy.
1889	2	1	5·88	0·40
1890	8	—	17·02	—
1891	11	4	11·45	2·25
1892	13	2	23·21	0·98
1893	4	2	11·76	0·75
—	average 38 7·60	average 9 1·80	13·86	0·87

Among the complications that may occur at the time of the extraction, loss of vitreous is one of the most important. It usually happens in eyes in which

there is some pre-existing disease; the vitreous is more fluid than natural, and the hyaloid membrane is either extremely thin or has perhaps given way (see Table V). The percentage is lowest in those cases operated upon without iridectomy (2·99). From this, however, we can by no means conclude that the chance of losing vitreous is less than after an iridectomy has been done, rather the reverse; the difficulty that there sometimes is in removing the lens through an intact pupil is certainly greater than when a coloboma exists; we must rather put it down to the fact that in this group of cases we are dealing with a greater percentage of eyes which are free from any serious disease.

TABLE V.

Cases in which Vitreous was lost at Extraction and their Results.

Year.	With iridectomy.	Without iridectomy.	With preliminary iridectomy.	V. = 6/6 and J. 1 to 6/18 and J. 6.	V. = 6/24 - 6/60.	V. = 5/60 to counting fingers.	Hand-movement and less.	No record of vision.	Excisions.
1889	9	—	2	3	1	1	1	5	—
1890	7	3	2	4	1	—	3	4	—
1891	7	2	4	6	4	1	1	1	—
1892	11	3	3	7	3	—	1	5	1
1893	7	—	5	3	3	2	1	2	1
—	41	8	16	23	12	4	7	17	2

Percentage of above Table for the Five Years.

Total.	3·75	2·99	10·81	47·91	25·00	8·33	14·58	26·15	4·16
4·27									

In the operation with iridectomy at the time of extraction the percentage of cases in which vitreous is lost is not very much higher (3·75); but after preliminary

iridectomy the percentage is much greater (10·81). We must again remember that in this group we have a very large number of unhealthy eyes. The percentage of all cases which fall into the group usually termed "successful" ($V. = 6/6 - 6/60$) is 72·91.

The percentage of cases whose vision = hand-movement and less is certainly large (14·58), and 4·16 per cent. finally come to excision.

Table VI gives the number of cases in which the extraction was followed by an increase in the tension of the globe.

The lowest percentage belongs to the group in which extraction was done with iridectomy at the same time (0·42).

The highest percentage is seen in the cases of extraction without iridectomy (1·17).

After preliminary iridectomy the percentage is 0·71. The causes which lead to this condition are fully discussed in a paper by Mr. Treacher Collins in the Ophthalmological Society's Transactions, vol. x, and still more recently in the lectures delivered by him at the Royal College of Surgeons in 1894.

TABLE VI.

Glaucoma following Extraction.

Year.	Glaucoma following extraction with iridectomy.	Glaucoma following extraction without iridectomy.	Glaucoma following extraction with preliminary iridectomy.
1889	1	—	1
1890	1	—	—
1891	—	—	—
1892	1	—	—
1893	2	2	—
—	5	2	1

TABLE VI (*continued*).

Year.	Percentage of glaucoma follow- ing extraction with iridectomy.	Percentage without iridectomy.	Percentage after preliminary iridectomy.
1889.....	0·40	—	3·57
1890.....	0·50	—	—
1891.....	—	—	—
1892.....	0·49	—	—
1893	0·74	5·88	—
—	0·42	1·17	0·71

Table VII shows the number of cases in which some unfavourable condition existed in the patient's general condition and in the eye.

In the former group there were 244 or 16·06 per cent., and of these 7, or 0·46 per cent., suffered from albuminuria, and 30, or 1·97 per cent., from diabetes.

TABLE VII.

Table showing the Number of Cases in which unfavourable conditions existed in the Eye or in the Patient.

Year.	Unfavourable conditions in eye.	Unfavourable conditions in patient.
1889	62	41
1890	66	38
1891	59	49
1892	73	47
1893	68	69
	328	244

Percentage.

1889-1893	21·59	16·06
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TABLE VII (*continued*).*Results of Cataract Extraction in Patients suffering from Albuminuria.*

Year.	Number of recorded cases.	V. = 6/6 J. 1 to 6/18 J. 6.	V. = 6/24 — 6/60.	V. = 5/60 to counting fingers.	V. = hand- movement.	V. not recorded.
1889..	1	—	1	—	—	—
1890..	—	—	—	—	—	—
1891..	3	1	—	1	—	1
1892..	1	—	—	1	—	—
1893..	2	—	1	—	—	1
	7	1	2	2	—	2

Percentage.

	0·46	20·00	40·00	40·00	—	28·57
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Result of Cataract Extraction in Patients suffering from Diabetes.

1889..	2	1	1	—	—	—
1890..	7	2	1	1	—	3
1891..	6	2	1	—	—	3
1892..	6	3	1	1	—	1
1893..	9	2	4	1	—	2
	30	10	8	3	—	9

Percentage.

	1·97	47·61	38·08	14·28	—	30·00
--	------	-------	-------	-------	---	-------

It will be seen that the result of these cases, though by no means bad, is distinctly less favourable than when the operation is performed upon people healthy in other respects. This is, of course, exactly what one would expect.

The number of cases operated upon while the patients

were suffering from albuminuria is too small to allow one to draw any trustworthy conclusions.

There were 328 cases, or 21·59 per cent., in which some unfavourable condition existed in the eye of the patient before the operation was performed.

Table VIII gives the total number of cases that were operated upon during the different ages.

The number of cataracts extracted from patients between the ages of 60 and 70 equalled nearly half of the total number, 41·34 per cent.

TABLE VIII.

Table showing the age of the Patients operated upon.

Year.	90 and upwards.	80—90.	70—80.	60—70.	50—60.	Below 50.
1889..	—	8	67	138	56	40
1890..	1	6	66	114	59	36
1891..	—	5	87	132	55	28
1892..	—	7	85	119	52	30
1893..	1	8	79	125	73	42
—	2	34	384	628	295	176

Percentage of Ages.

1889— 1893	0·13	2·23	25·27	41·34	19·42	11·53
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The two oldest patients operated upon were both 90 years of age.

Table IX shows the number of cases in which secondary complications followed extraction, but excluding suppuration, glaucoma, and sympathetic ophthalmia.

Previous disease in the eye greatly affects the result of operations.

TABLE IX.

Table showing the number of Cases where other secondary complications followed Extraction besides those mentioned in the preceding Tables.

Year.	Secondary complications after extraction.
1889.....	106
1890.....	81
1891.....	96
1892.....	92
1893.....	113
—	488
<i>Percentage.</i>	
1889—1893....	32·11

TABLE X.

Results of Extraction in Eyes which have had Iritis or Keratitis.

Year.	Number of cases.	V. = 6/6 J. 1 to 6/18 J. 6.	V. = 6/24—6/60.	V. = 5/60 to count- ing fingers.	V. = hand-movement and less.	V. not recorded.	Excisions.
1889 ..	14	2	2	2	—	6	2
1890 ..	12	1	3	—	3	5	—
1891 ..	10	6	1	1	—	1	1
1892 ..	17	6	3	4	1	3	1
1893 ..	13	2	3	2	2	3	1
—	66	17	12	9	6	18	4

Percentage of above Table for the Five Years.

1889— 1893	4·34	35·41	25·00	18·75	12·50	27·27	8·33
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Table X shows the number of cases that were operated upon after having had keratitis or iritis.

I endeavoured to separate the two, but this I found almost impossible, for most of the cases which had corneal nebulæ also had posterior synechiæ, and thus one could not put them in one or other table separately. There were 66 cases giving a percentage of 4·34.

The percentage of cases whose vision ranged from 6/6 to 6/60 was 60·41.

The percentage of those which only obtained hand-movement or less is high (12·50).

The number of eyes which were excised reaches the very high percentage of 8·33. In this group are included some cases in which primary suppuration occurred after the extraction.

Table XI gives the number of cases of black and darkly coloured cataracts that were extracted.

TABLE XI.

Results of Extraction of Black and Darkly coloured Cataracts.

Year.	Total.	V. = 6/6 J. 1 to 6/18 J. 6.	V. = 6/24—6/60.	V. = 5/60 to count- ing fingers.	V. = hand-movement and less.	No record of vision.	Eviscerations and Excisions.
1889 ..	16	6	3	—	3	3	1
1890 ..	5	—	—	2	2	1	—
1891 ..	7	5	1	—	—	1	—
1892 ..	3	1	1	1	—	—	—
1893 ..	2	—	—	1	—	1	—
—	33	12	5	4	5	6	1

Percentage of above Table for the Five Years.

1889— 1893	2·17	44·44	18·51	14·81	18·51	18·18	3·71
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TABLE XI (*continued*).*Conditions of Eyes with Black Cataracts.*

Number.	Myopic.	Normal.	Not recorded.	Alb. retinitis.
33	17	11	4	1

Percentage.

	51·51	33·33	12·12	3·03
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They are commonly found in myopic eyes; of these there were 17, or 51·51 per cent. The percentage of so-called successful cases ($V. = 6/6$ to $6/60$) was 62·95. The percentage of cases in which there was only hand-movement is very high, 18·51, and 3·03 per cent. were excised.

These figures uphold a common impression that the prognosis in cases of black cataract is somewhat unfavourable. A glance at the table shows that a large number of these eyes are really diseased before the operation is undertaken.

Table XII gives the number of cases in which suppuration occurred after the three chief operations practised for the extraction of cataract.

TABLE XII.

Suppurations after Extractions.

Year.	After extraction with iridectomy.	After extraction without iridectomy.	After extraction with preliminary iridectomy.
1889.....	8	1	1
1890.....	4	1	—
1891.....	2	2	—
1892.....	3	1	—
1893.....	2	—	1
—	19	5	2

TABLE XII (*continued*).

Year.	Percentage after iridectomy.	Percentage without iridectomy.	Percentage after preliminary iridectomy.
1889.....	3·23	2·94	3·57
1890.....	2·03	2·12	—
1891.....	1·12	2·08	—
1892.....	1·47	1·78	—
1893.....	0·75	—	4·34
Average ..	1·72	1·78	1·58

The highest percentage occurs in the cases in which extraction was done without iridectomy (1·78), and the lowest in the cases extracted after preliminary iridectomy (1·58); those done with iridectomy at the time of the extraction occupy an intermediate position (1·72).

It is very significant that the cases in which the simple operation was done provide the highest percentage of suppurations. This group, which contains the largest proportion of the healthiest eyes, certainly ought to give the least number of suppurations, supposing that one operation were not beset with more danger than another; but the frequency of prolapse occurring after the operation without iridectomy must be considered a powerful factor in this process. An analysis of these cases is given in Table XV, and this will be referred to later on.

Sympathetic ophthalmia following extraction of cataract is, fortunately, a somewhat rare condition. Table XIII.

The two operations with iridectomy give almost identical percentages, viz., 0·60 after preliminary iridectomy, and 0·61 after the other operation.

There are no cases included in the list of extractions without iridectomy; but cases operated upon in this manner are certainly not exempt from this complication.

TABLE XIII.

Sympathetic Ophthalmia following Extraction.

Year.	After extraction with iridectomy.	After extraction without iridectomy.	After extraction with preliminary iridectomy.
1889.....	1	—	—
1890.....	1	—	1
1891.....	1	—	—
1892.....	1	—	—
1893.....	3	—	—
—	7	—	1

Year.	Percentage after extraction with iridectomy.	Percentage after extraction without iridectomy.	Percentage after extraction with pre- liminary iridectomy.
1889	0·40	—	—
1890.....	0·50	—	3·03
1891.....	0·56	—	—
1892.....	0·49	—	—
1893.....	1·11	—	—
—	0·61	—	0·60

In Table XIV is given a classification of the cases according to the months in which they were operated upon, and for convenience of description the totals of the five years are discussed instead of taking each year separately.

There were more operations done in the months of October (176) than in any other; and then follow the months of May, June, July, and November in this order.

August contains the fewest number of operations (65).

This table was got out for the purpose of ascertaining whether one month seemed more favourable to the development of iritis or suppuration after extraction than another.

Of the total number in which this occurred we find

that July has by far the highest percentage, 7·58. This at first sight is hardly what one would expect, for presumably during the summer these elderly people would be suffering less from bronchitis and colds than they would be during the winter, and altogether their general health would be better. This is no doubt the case; one must recollect, however, that there are many patients who would not venture on a journey from their country homes during the winter, but who make up their minds to do so when there is a prospect of fine weather; the result is that during the summer months a greater percentage of persons with low vitality are operated upon than at other times, and this in some measure accounts for the enormous increase in the development of iritis during July.

TABLE XIV.

Number of Cases operated upon during the different months, and the number of Cases in which Suppuration or severe Iritis occurred during these months, together with Percentages.

Months.	Number of cases operated upon.	Number of cases of severe iritis or suppuration.	Percentage of these cases.
January	104	3	2·88
February.....	122	6	4·91
March.....	109	5	4·58
April	129	5	3·87
May.....	154	7	4·54
June	148	4	2·70
July.....	145	11	7·58
August	65	—	—
September	115	3	2·60
October	176	6	3·40
November	144	2	1·39
December	108	4	3·70
—	1519	56	—

One reason for the greatly diminished number of cases of cataract extraction during August is the fact that many of the wards of the hospital are at that time closed for

cleaning purposes, and operations of this kind, about which there is no urgency, are, as far as possible, postponed for a few weeks.

The percentage of cases in which severe iritis developed during October is by no means great, and during November it falls to its lowest point, viz., 1·39.

Table XV gives the number of cases in which a secondary iridectomy for prolapse occurred after extraction with and without iridectomy, and the results obtained. This is at once seen to be a serious complication to any operation.

Of the 38 cases of prolapse of the iris after extraction without iridectomy, 83·78 per cent. obtained vision between 6/6 and 6/60. 5·41 per cent. were not benefitted by the removal of the cataract, and the percentage of excisions reached the very high total of 8·10. Now, considering that these are mostly picked cases, the results of the operation cannot be considered as favourable.

TABLE XV.

Cases in which Prolapse of the Iris occurred after Extraction, and their results.

	Number of cases.	V. = 6/6 J. 1 to 6/18 J. 6.	V. = 6/24 - 6/60.	V. = 5/60 to counting fingers.	V. = hand-movement and less.	Not recorded.	Excision.
With iridectomy ...	9	4	1	—	1	3	—
Without iridectomy	38	27	4	1	2	1	3

Percentage.

With iridectomy ...	0·87	66·66	16·66	—	16·66	33·33	—
Without iridectomy	13·86	72·97	10·81	2·70	5·41	2·63	8·10

There were only nine cases in which secondary iridectomy was done for prolapse after the operation with iridectomy.

It is rarely necessary to extract a cataract while the patient is under the influence of a general anæsthetic, and practically the only reason for giving it is to ensure an unsteady person keeping still. 99·68 per cent. of the cases were extracted under the local anæsthetic cocaine.

TABLE XVI.

Anæsthetics used at the Extraction.

Year.	Cocaine	Ether or chloroform.
1889	307	2
1890	280	2
1891	307	—
1892	293	—
1893	327	1
	1514	5
<i>Percentage.</i>		
1889—1893	99·68	0·32

The secondary operations form an important item when considering the results of extractions.

During the five years there were 404 operations performed for capsular opacities, and there were 108 other secondary operations, besides 29 excisions, making a total of 541, and when expressed in percentages it amounts to 26·79 of secondary operations on the capsule, 7·04 of other secondary operations, and 1·90 of excisions.

It is a well-known fact, and this can be seen by reference to the detailed description of cases, that after simple needling of thickened capsule the vision is materially improved, and, with few exceptions, normal acuteness of sight is obtained, provided that the eye is

TABLE XVII.

Secondary Operations.

Year.	Secondary operations on capsule.	Other secondary operations.	Excisions or eviscerations.
1889	71	15	11
1890	83	13	6
1891	93	24	3
1892	93	25	4
1893	64	31	5
	404	108	29

Year.	Percentage of secondary operations on capsule.	Percentage of other secondary operations.	Percentage of excisions or eviscerations.
1889	22.90	4.83	3.54
1890	29.64	4.64	2.14
1891	30.19	7.79	0.97
1892	31.74	8.53	1.36
1893	19.51	9.45	1.52
	26.79	7.04	1.90

healthy, and that no secondary complications supervene. I have, therefore, only tabulated the causes which lead to failure after these operations. Table XVIII. A certain number remain unimproved after needling, for the simple reason that the flap of capsule that is cut through, falls back into its original position, and obstructs vision as before. As a rule, a second needling is successful.

What I chiefly want to bring under notice are the secondary inflammatory and degenerative conditions which unfortunately occur after needling of capsule, and which permanently diminish or even destroy the sight.

These conditions are set forth in Table XVIII.

TABLE XVIII.

*Complications occurring after Secondary Operations, but excluding
Secondary Iridectomy for Prolapse.*

Year.	No. of cases.	Suppuration.	Glaucoma.	Other secondary complications.
1889	6	1	3	2
1890	9	3	3	3
1891	11	1	—	10
1892	11	—	2	9
1893	8	—	2	6
	45	5	10	30

Percentage.

1889	—	1·17	3·52	2·32
1890	—	3·09	3·09	3·12
1891	—	0·85	—	8·54
1892	—	—	1·75	7·62
1893	—	—	2·06	6·31
	—	1·02	2·08	5·58

The two most formidable dangers are glaucoma (2·08 per cent.), and suppuration (1·02 per cent); besides these we get a number of cases in which slow inflammatory changes are set up in the eye, which ultimately diminish or even permanently destroy the sight (5·58 per cent.).

First of all with regard to increased tension occurring after needling. The explanation of this condition is by no means easy. It is more often seen in those cases in which capsule is caught in the wound, though if there be tension before the secondary operation is undertaken, a free division of the capsule sometimes permanently relieves the glaucomatous condition. An explanation of this is given by Mr. Treacher Collins in his lectures at the Royal College of Surgeons, 1894.

The second complication is suppuration.

It is certainly a remarkable thing to find that this occurs in 1·02 per cent. of the cases needled, this being very nearly as high as what occurs after the far more serious operation of extraction.

Now it is obvious that there must be some source of infection either from without or within.

The actual state of things is this. A minute wound is made in the cornea with a needle, and the capsule is punctured. In most cases the point of the needle at least enters the vitreous, the thickened capsule is then cut or torn by its sharp cutting edge. Now we have a direct communication between the exterior and the vitreous chamber. In some cases I have seen a tag of capsule, or even vitreous, follow the needle, when it is withdrawn, right up to the corneal puncture, and even when this has not been noticed, I have frequently seen a tag caught in the wound and projecting from it within a day or so, and on careful examination one can often see it running across the anterior chamber back to the deeper parts of the eye. Now this is a very ready means by which the interior of the eye may become infected, and it is of the utmost importance to recognise it early, so that the tag may be removed; in most instances it can be drawn out and cut off, and then if the puncture be touched with the galvano-cautery it is effectually sealed, and the danger is over. But, unfortunately, infection may have already taken place. One is sometimes able to see that the tag is the source of infection, and that purulent infiltration is starting from it.

There is still another danger in the operation of needling. I refer to the physical violence that the iris and ciliary body suffer, when a tough membrane is being divided. Of course the danger is much lessened by using a needle with a very sharp cutting edge, but no matter how sharp the needle may be, it is impossible to avoid tearing the capsule in some cases instead of cutting it. This is seen in its extreme degree, when there happen to

be posterior synechiæ present, and all operators must have observed hæmorrhage occur at times from the iris or ciliary body, when a particularly tough membrane which is adherent to the iris is being divided. All eyes will not stand this without showing some signs of resentment, and it is frequently these which give the bad results.

In very briefly reviewing the results of the three chief operations for extraction, there are one or two points that I want to call especial attention to, and also I wish, as far as possible, to draw some practical conclusions as to the sort of operation that in equally expert hands is likely to give the greatest percentage of good results, and the least percentage of failures.

There is a complication that almost entirely belongs to one group of cases, and that is secondary prolapse of the iris after extraction without iridectomy. We may almost disregard it in the other groups, for it occurs in less than 1 per cent.

Now it is an obvious fact, and one that is abundantly proved by the preceding tables, that prolapse of the iris after an extraction is a very serious thing. Most of these cases occur within the first 12 hours, and the result is that an operation has to be undertaken as soon as possible.

If there is one thing more than another that is essential for success, it is keeping the patient absolutely quiet during the first few days after the extraction. Instead, however, of this, the patient has to submit to another painful operation, or else be put under a general anæsthetic, with all its evil accompaniments. The mental and physical conditions under these circumstances are very far removed from the ideal tranquil condition that is so much to be desired. The after vomiting may possibly lead to a loss of vitreous, and I have known intraocular hæmorrhage to occur.

And now to return for a moment to the condition of the eye when a prolapse takes place.

The wound is forced open, and the iris is pushed between the flaps. The result of this is:—

First of all the edges of the wound are kept apart, and therefore no healing can take place.

Secondly, there is a direct communication from the conjunctival sac into the interior of the globe, and a road is open for the inlet of any septic organisms that may be present.

Thirdly, the iris is not only prolapsed, but is also nipped in the wound, and it is under much the same sort of physical conditions as are met with in the case of a strangulated hernia, and even supposing gangrene does not occur, yet the delicate circulation of the iris is considerably interfered with, the veins get engorged, the iris swollen and oedematous, and, if left long enough, covered with plastic exudation. An iridectomy must at once be done, but it is impossible to conceive of more unfavourable conditions under which to perform the operation. After the prolapse has been removed, the lips of the wound refuse to fall into place again, and it is often most difficult to get the cut edges of the coloboma into position within the eye; this is readily proved by the number of cases in which the iris is subsequently noted as being still entangled. In some cases a small prolapse again takes place. The result is that the eye is in a very dangerous condition, partly owing to the fact that iritis may be easily set up and possibly even sympathetic ophthalmia may occur. And supposing these serious conditions fail to manifest themselves, we almost necessarily have a cystoid cicatrix which is anything but desirable. I do not, of course, mean to suggest that every case of prolapse is bound to be followed by these serious consequences, for there are many in which excellent vision is obtained, but the risk that is run is at once seen by reference to Table XV.

These figures are sufficient to show what an extremely serious occurrence a secondary prolapse of the iris is.

Should a severe iritis be set up, it is obvious that the chances of getting a blocked pupil would be far greater in a case in which no coloboma existed.

No such marked difference can be drawn between the two groups where iridectomy is done. The fact that the cases in which preliminary iridectomy is performed contain such a much larger percentage of eyes in which previous disease has existed, prevents us putting the two side by side and comparing them. But, taking all things into consideration, it appears that there is but little to choose between the two.

In conclusion, I have to express my gratitude to the members of the surgical staff of the Royal London Ophthalmic Hospital for allowing me to use the notes of their cases, and I am especially indebted to Mr. Nettleship for several suggestions, and for kindly placing at my disposal some tabulated results of his own cases, and thereby saving me much time and labour.

My best thanks are also due to Dr. H. V. McKenzie for his invaluable help in assisting me to arrange the tables, and in checking the results.

No. of case.	Hospital Register.	Eye	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
1	41	1	56	F.	L.	Good..	Good	Corneal section. Iridectomy, capsulotomy with cystotome	Some soft matter left
2	63	1	..	M.	R.	"	"	" "	None
3	243	2	44	M.	L.	Results of old iritis	Rheumatic .	" "	Soft matter left
4	412	1	66	F.	L.	Good	Cough	Usual operation, but peripheral capsulotomy	None
5	482	2	65	M.	R.	Good	Good	Usual operation.	Vitreous presented
6	483	1	58	F.	R.	"	"	" "	Opaque matter left
7	504	2	65	F.	L.	"	"	" "	None
8	515	1	57	M.	R.	"	Cough	Peripheral capsulotomy	..
9	571	1	65	M.	L.	"	Good	Wound enlarged	Lens difficult to deliver
10	623	2	60	M.	R.	Incomplete cataract	"	Peripheral capsulotomy	Soft matter left
11	692	2	68	M.	L.	Brown cataract	"	Usual operation.	None
12	732	1	77	M.	R.	Hypermaturation cataract	"	Peripheral capsulotomy. Wound enlarged. Lens extracted with scoop and vectis	Bad of vitreous lost
13	747	2	68	M.	R.	Good	"	Peripheral capsulotomy	None
14	821	1	76	M.	R.	"	Paralysis agitans, alcoholic	" "	"
15	822	1	65	M.	R.	Brown nucleus	Hemiplegic .	Usual operation.	"
16	858	1	66	F.	L.	Good	Good	" "	"
17	1356	1	71	F.	R.	"	"	" "	"
18	1416	1	51	F.	R.	"	"	Peripheral capsulotomy	"
19	1498	1	60	F.	R.	"	"	Usual operation.	"
20	1691	2	67	M.	L.	"	"	Peripheral capsulotomy	"
21	1692	1	67	M.	R.	"	Cough	Usual operation.	"
22	1768	1	45	F.	R.	Corneal nebula	Good	" "	Iris transfixed Much bleeding in A.C.

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	Fingers at 2'	1/60 J. 20	Needling	None	6/18 J. 1	Subsequently, vitreous opacities and choroiditis reduced vision much.
"	6/60 J. 10					
"	" ..	Hand-movement 6/9 J. 1	Iridotomy	" ..	6/60 J. 10	R. did fairly well.
"	6/36 J. 8					
"	6/36 J. 16	6/12 J. 2	" ..	" ..	" ..	L. did fairly well, but C. was nebulous.
"	Hand-movement 6/60 J. 12	Fingers at 2' 6/24	Needling	None	6/12 J. 1	
Purulent iritis	J. 20	J. 20	Needling	None	6/18 J. 6	R. did well.
Suppuration		" ..	Excision			
Capsule involved in wound	J. 20	Fingers at 2'	Needling	" ..	6/18 J. 2	L. did well, but changes at macula destroyed vision.
None	6/12 J. 1	" ..	" ..	" ..	" ..	R. did well.
Severe iritis. ..	Fingers at 12''	Fingers at 12''				
"	J. 6	" ..	" ..	" ..	" ..	L. did well.
Suppuration		" ..	Excision	" ..	" ..	Primary suppuration.
Severe iritis. ..	6/60 J. 16					
None	1/60	1/60	Needling 2	None	6/60 J. 10	Still some opaque lens matter.
" ..	" ..	3/60	Needling	" ..	6/24	Still some capsule.
Iritis. Pro-lapse of angle of iris	6/24	" ..	Iridectomy for pro-lapse	None	6/36 J. 1	
None	" ..	6/6 J. 1				
"	3/60 J. 16	" ..	" ..	" ..	" ..	R. did well.
"	1/60	6/60	Needling	None	6/9 J. 1	
"	1/60	6/18 J. 1				

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
23	1771	2	77	M.	L.	Eye watery .	Good	Usual operation .	None
24	1772	2	58	M.	L.	Good	"	Lens tight	"
25	1821	2	52	M.	L.	"	"	After preliminary iridectomy	"
26	1844	2	66	F.	R.	"	"	Usual operation .	"
27	1855	2	53	M.	L.	"	"	" "	Soft matter left
28	1899	1	59	F.	L.	"	"	" "	" "
29	1940	1	60	F.	R.	Old iritis and P.S.	"	" "	" "
30	1959	2	57	M.	L.	Good	Cold	" "	..
31	2031	1	..	M.	L.	"	Good	Incision enlarged, otherwise usual operation	" "
32	2183	1	63	F.	R.	"	"	Usual operation .	None
33	2253	1	55	F.	R.	"	"	" "	"
34	2253 a	2	55	F.	R.	"	"	" "	"
35	2255	1	58	F.	R.	"	"	" "	"
36	2278	1	63	F.	L.	"	"	" "	"
37	1016	1	70	M.	L.	"	"	" "	Difficult to deliver

1	198	2	63	F.	L.	Good	Good	Section upwards. With iridectomy. Capsule opened with cystotome	A little vitreous lost
2	158	1	60	M.	R.	Black cataract	"	Usual operation, but incision had to be enlarged	None
3	197	1	81	F.	L.	Glaucomatous	"	After iridectomy for glaucoma	Soft matter left
4	214	2	67	F.	L.	Old iritis ..	"	Usual operation .	None
5	398	1	60	M.	R.	Projection faulty	"	" "	"
6	399	1	56	M.	R.	Good	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
K. striata. Vitreous opacities	J. 16	3/60	..	..	..	R. almost suppurated after extraction.
None	..	6/12 J. 6	..	..	..	R. extraction followed by iritis.
"	J. 14	6/24 J. 4	Capsule extraction	None	6/9 J. 2	R. lost after cataract; extraction elsewhere.
"	6/60 J. 16	..	..	..	..	L. did well.
"	1/60	6/12 J. 1	..	..	..	R. did well.
"	1/60	6/18 J. 1	..	..	..	
"	..	4/60	..	..	..	
..	..	..	..	..	..	R. extraction and needling followed by much bleeding.
"	6/36 J. 14	6/9 J. 1	Needling	..	6/9 J. 1	
	6/36 J. 14	6/36				
Iritis and P.S.	6/60 J. 12	6/12 J. 4	..	..	..	R. did well. No. 2253.
None	6/36	6/12 J. 4				
"	6/24	6/12 J. 4	..	..	..	
"	6/36	6/24	Needling	..	6/6 J. 1	
"	6/60 J. 15	6/9 J. 1	Needling	Needle puncture cauterized.	1/60 J. 20	Capsule still present. Vitreous opacities.
"	6/60 J. 12	6/60 J. 15				

Some iritis....	6/60 J. 10	6/9 J. 1				
None	Hand-movement	Hand-movement	Needling	None	Hand-movement	Optic atrophy.
"	1/60	1/60	..	..	..	R. blind from glaucoma. Some capsule left.
Some iritis....	6/60	..	..	..	..	R. did fairly well. No. 1940 (year 1889).
None	6/18 J. 6	6/6 J. 1				
"	6/36 J. 12	6/18	Needling	..	6/9 J. 2	

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
7	633	1	64	M.	R.	Small scar on cornea	Good	Usual operation .	None
8	744	1	73	F.	L.	Good	Cough	Incision enlarged	Lens difficult to deliver
9	764	1	80	F.	R.	Myopic T +	Good	Usual operation .	Some soft matter left
10	783	2	59	F.	R.	" "	"	" "	Bleeding from iris
11	897	1	51	F.	L.	" "	"	" "	None
12	996	2	57	F.	R.	Cornea nebulous	"	" "	"
13	1136	1	69	M.	L.	Good	"	Incision twice enlarged	"
14	1433	2	54	M.	L.	"	"	Usual operation .	"
15	1490	1	59	F.	R.	"	"	" "	Soft matter left
16	1512	1	75	M.	R.	"	Very feeble.	" "	None
17	1527	1	56	F.	L.	Myopic	Fairly good.	" "	"
18	1572	1	58	M.	R.	Good	Good	" "	"
19	1573	1	45	M.	L.	"	Diabetic....	" "	Iris transfixed with knife
20	1583	1	66	F.	R.	Morgagnian cataract	Good	..	..
21	1611	2	63	F.	L.	Good	"	" "	Soft matter left
22	1697	1	70	M.	R.	"	Rh. arthritis	" "	Much bleeding
23	1707	1	70	F.	R.	"	Good	" "	None
24	1719	1	66	F.	R.	"	"	" "	"
25	1848	1	65	M.	L.	"	"	Incision had to be enlarged	"

1	40	1	64	F.	L.	Good	Cough	Conjunctival flap. Iridectomy capsule opened with cystotome	Small section ..
2	221	2	70	M.	R.	"	Good	Usual operation .	None
3	231	1	29	M.	R.	"	Albuminuria	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	3/60	6/60	Needling	..	..	Still much capsule.
"	2/60					
"	6/60 J. 19	6/36 J. 18	..	..	..	Post. staphyloma and vitreous opacities.
"	6/18	..	..	..	..	L. did well. No. 1899 (year 1889).
"	6/6 J. 1	6/6 J. 1				
"	6/24	..	..	..	..	L. did fairly.
"	6/12 J. 1					
"	..	6/9 J. 1	..	..	..	R. operated elsewhere. Vitreous lost. Eye did badly.
Some iritis. Sympathetic ophthalmia.	Hand-movement	..	Excision	..	..	Excised 3 months later.
Very slowly healing	6/24	6/9	..	..	..	illiterate.
Some iritis....	..	6/6 J. 1				
None	6/18	6/18 J. 2				
Iritis	1/60	5/60	..	..	..	Vitreous opacities.
..	..	..	..	..	..	Case did well.
None	3/60	..	..	..	..	R. did well. No. 1498 (year 1889).
Slight iritis.						
None	6/24 J. 10	6/24 J. 10				
"	6/12 J. 4	6/9				
"	3/60	3/60	Needling	..	6/9 J. 1	

Hyphæma ...	6/60					
None	2/60	6/36 J. 18	..	..	..	L., No. 1016 (year 1889). R. capsule. Central and peripheral choroiditis.
"	6/24					

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
4	241	2	66	F.	L.	Good	Good	Usual operation .	None
5	247	1	73	F.	L.	Projection bad	"	" "	Soft matter left
6	351	1	65	M.	L.	Good	"	" "	None
7	533	2	47	F.	L.	"	"	" "	"
8	554	1	68	F.	R.	"	"	" "	"
9	631	1	64	M.	R.	"	Cough	" "	"
10	633	1	73	M.	L.	"	Good	" "	"
11	657	1	62	F.	R.	"	"	" "	"
12	975	1	67	F.	L.	"	"	" "	"
13	1037	1	28	M.	R.	"	Unsteady . . .	Scoop extraction.	Soft matter left
14	1114	1	79	F.	R.	"	Rheumatic .	Usual operation .	None
15	1222	2	66	F.	R.	Iris tremulous. Projection not good	Good	" "	"
16	1235	1	70	F.	R.	Good	"	" "	"
17	1304	1	65	M.	R.	"	Deaf	" "	"
18	1305	1	66	M.	L.	Good	Good	" "	"
19	1312	1	68	F.	L.	"	"	" "	"
20	1436	1	78	F.	R.	"	"	" "	"
21	1455	1	77	F.	L.	"	Feeble	" "	"
22	1480	2	49	M.	L.	"	Good	" "	"
23	1481	1	70	M.	L.	Myopic	"	" "	Soft matter left
24	1596	1	78	M.	R.	Good	"	After preliminary iridectomy	None
25	1599	1	66	F.	R.	"	Deaf	Usual operation .	"
26	1683	1	61	M.	R.	Hypermature cataract	Good	" "	"
27	1696	1	65	F.	L.	Corneal nebula	"	" "	"
28	1724	1	58	F.	L.	Good	"	" "	Iris entangled .
29	1767	2	65	M.	R.	"	"	" "	None
30	1797	2	28	M.	R.	Good	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	..	6/12	Needling	..	6/9	R., No. 1719 (year 1890).
Iritis, &c.	Hand-movement	6/36	„	..	6/24	Always a defective eye.
None	6/9 J. 2	6/60	„	..	6/6 J. 1	R., No. 1768 (year 1889).
„	6/6 J. 1	6/9 J. 1	..	..	..	
„	6/24 J. 2	6/30	Needling	..	6/6 J. 1	
„	6/9 J. 1	6/24	„	..	6/6 J. 1	
Hyphæmæ	6/9 J. 1					
None	6/36	6/9 J. 1				
K. striata.	6/24	6/24	„	..	6/6 J. 1	
None	6/18					
„	6/9					
„	2/60	..	..	..	..	L., extraction 1887. Did well. Vitreous opacities.
Iritis	6/36	..	1 Needling	..	..	Sympathetic ophthalmia followed extraction.
Sympathetic ophthalmia	..	..	2 Excision			
None	6/60	6/24				
„	6/24	6/9 J. 1				
„	6/36	6/60 J. 10	Needling	..	6/60 J. 10	
„	..	1/60	„	..	6/12	
„	1/60	..	..	..	..	Vitreous opacities choroiditis.
„	6/9					
„	6/36	3/60	Needling	..	6/18	
„	6/36					
„	6/18	6/24 J. 10	„	..	6/9	
„	6/18					
„	2/60	5/60	„	..	6/18	
„	6/24	6/24	„			
„	6/18	6/6	..	..	..	L., No. 351.
„	6/6 J. 1	..	..	..	..	L. extracted elsewhere three years ago. Did well.

No. of case.	Hospital Register.	Eye.	Age	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
1	25	1	62	F.	L.	Good	Good	Conjunctival flap. Small iridec-tomy. Capsule opened with cystotome	None
2	27	1	65	M.	R.	"	"	Usual operation .	"
3	67	1	70	M.	R.	"	"	" "	"
4	124	1	65	M.	R.	Ch. conjunctivitis	"	" "	"
5	245	1	68	M.	R.	Good	"	" "	"
6	250	2	61	F.	L.	"	"	" "	"
7	258	1	62	F.	R.	Old iritis . . .	"	" "	Difficult to de liver
8	482	2	48	M.	L.	Iris tremu-lous. Lens loose	"	" "	Vitreous lost . . .
9	591	2	65	M.	L.	Ch. conjunctivitis	"	" "	None
10	738	2	72	F.	L.	Myopic	"	" "	"
11	795	1	65	F.	L.	Hypermaturation	Paralysis agitans	" "	Vitreous pre-sented
12	937	2	62	F.	L.	Good	Good	" "	None
13	938	1	70	F.	R.	"	"	" "	"
14	950	1	69	M.	R.	Projection bad. Hy-permaturation cataract	"	" "	"
15	1008	1	78	M.	R.	Good	"	" "	"
16	1052	1	33	F.	R.	"	"	" "	"
17	1072	1	60	M.	L.	"	"	" "	"
18	1131	1	79	M.	R.	"	Dyspnœa . . .	" "	"
19	1276	1	61	M.	R.	"	Good	" "	"
20	1359	1	84	M.	R.	Brown cata-ract	"	" "	"
21	1381	1	65	M.	R.	Good	"	" "	"
22	1530	1	71	F.	L.	Projection not good	"	" "	"
23	1549	2	79	M.	L.	Good	Dyspnœa and unsteady	" "	"
24	1576	2	72	M.	L.	Myopic . . .	Good	" "	"
25	1592	1	67	M.	L.	Good	"	" "	"
26	1652	1	63	M.	R.	"	"	" "	"
27	1674	1	61	F.	L.	Entropion . .	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Slight iritis ...	6/60	3/60	Needling	..	6/12 J. 8	Vitreous opacities.
P.S.	6/24	6/9 J. 1				
None ...	6/18	6/18 J. 8	"	..	6/12 J. 2	
"	6/24	6/24	"	..	6/6 J. 1	
"	6/6 J. 1					
Iritis and P.S.	6/60	1/60	Capsule extraction	Vitreous lost	6/36 J. 8	R., No. 2255 (year 1889)
None	6/60	6/24	Needling	..	6/6 J. 1	Cholesterin in vitreous. R. did badly after extraction elsewhere.
"	Hand-movement	2/60	1. Iridectomy	..	6/18	
"	6/12	6/6	2. Needling	..	..	R., No. 631 (year 1891).
"	6/12 J. 4	6/12 J. 1	..	..	..	R. extraction in 1887 did well.
"	6/60	6/60 J. 12	Needling	..	6/36	
"	6/24	6/12 J. 2	"	..	6/6 J. 1	R., No. 258.
"	6/9	6/6	"			
Atropine irritation	6/60 J. 12	6/60 J. 12	"	Post syn.	6/24	Vitreous opacities.
None	..	6/60 J. 16	"	..	6/6 J. 1	
"	6/9 J. 1		"	..	6/6 J. 1	
"	6/24 J. 6	6/12 J. 4	"	..	6/6 J. 1	
"	..	6/60	"	..	6/12 J. 12	
"	6/24	5/60 J. 19	"	..	6/12 J. 12	
Senile dementia	..	6/18	"	..	6/12 J. 12	
Slight iritis ...	4/60 J. 12	6/24 J. 8	..	..	..	Disc atrophic.
None	6/36	6/36 J. 15	Needling	..	6/9 J. 1	
..	1/60	1/60	Capsule extraction	Vitreous lost. Severe iritis	Hand-movement	R., No. 1131.
Vitreous prolapse	6/60 J. 16	6/36 J. 15	Needling	..	6/9 J. 1	R., No. 67.
None	6/24 J. 4	6/9 J. 1	"	..	6/12 J. 4	
Irritation of lids	6/24	6/18 J. 6	"	..	6/12 J. 4	
None	6/60 J. 14	6/36 J. 4	"	..	6/12 J. 4	

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
23	1675	2	70	F.	R.	Myopic.....	Good.....	Usual operation.	None.....
29	1676	1	34	M.	L.	Good.....	".....	No iridectomy..	".....
30	1630	2	77	M.	L.	".....	".....	Usual operation.	".....
31	1724	1	75	M.	R.	Old iritis...	".....	After preliminary iridectomy	".....
32	1867	1	68	F.	L.	Good.....	".....	Usual operation.	".....
33	1893	1	69	M.	L.	".....	".....	" "	".....
34	1900	1	64	M.	R.	".....	".....	" "	".....
35	1599	2	62	F.	R.	".....	".....	" "	Slight loss of vitreous

1	3	1	30	M.	R.	Good.....	Good.....	Conj. flap. No iridectomy. Capsule opened with cystotome	None.....
2	10	1	57	F.	L.	".....	Eczema of face	Small iridectomy	".....
3	11	1	68	F.	R.	Ch. conjunctivitis	Good.....	" "	Soft matter left
4	252	2	70	M.	L.	Good.....	".....	" "	None.....
5	296	2	75	M.	R.	".....	".....	" "	".....
6	297	1	61	M.	L.	".....	".....	" "	".....
7	320	1	74	M.	L.	".....	".....	" "	".....
8	381	2	60	M.	R.	".....	".....	" "	".....
9	426	1	56	M.	L.	".....	".....	" "	".....
10	453	1	42	F.	L.	".....	".....	Iridectomy after extraction	".....
11	705	1	59	F.	L.	".....	".....	Usual operation, with iridectomy	".....
12	706	2	71	F.	L.	".....	".....	" "	".....
13	728	2	65	M.	L.	".....	".....	" "	".....
14	734a	1	36	F.	L.	".....	".....	Capsule forceps used	".....
15	839	2	64	F.	R.	".....	".....	Usual operation, with iridectomy	".....
16	845	1	73	M.	R.	".....	".....	" "	".....
17	864	1	65	F.	R.	".....	Gouty.....	After preliminary iridectomy	Soft matter left

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	1/60	1/60	..	..	..	L., No. 41 (year 1889). R. myopic fundus changes.
"	6/9	6/6 J. 1	..	..	..	R. extracted in 1884 did well.
"	6/60 J. 19	6/12 J. 1	..	..	..	
"	2/60					
"	6/60 J. 14	6/24 J. 12	Needling	..	6/6 J. 1	
"	6/18 J. 6	6/9 J. 4				
"	6/36 J. 15	6/12 J. 2				
Iritis and P.S.	6/36 J. 14	6/24 J. 8	..	..	..	L. extracted elsewhere. R. capsule.

None	6/18 J. 1					
"	6/36 J. 6					
"	6/36 J. 12	6/9 J. 1				
"	6/24 J. 15	6/18 J. 4	..	..	..	R. No. 1652 (year 1892) a little capsule.
Corneal nebula	6/60 J. 16	6/24 J. 6	..	..	..	L. extraction 1888. Did well.
None	6/18 J. 8					
"	6/36 J. 12	6/36	2. Needling	..	6/18 J. 4	
K. striata.	6/36 J. 8	6/12 J. 2	..	..	..	L., No. 1072 (year 1892).
None	6/12 J. 1	6/12 J. 2				
"	6/24 J. 1					
Slight iritis ...	6/60 J. 19	3/60	Needling	..	6/18 J. 8	Vitreous opacities.
None	6/30 J. 14	6/36 J. 12	Needling	..	6/6 J. 1	R., No. 938 (year 1892).
"	6/36 J. 15	..	..	..	..	R. No. 1276 (year 1892).
"	6/24	6/18 J. 4	..	..	..	R. healthy.
"	6/24 J. 6	6/12 J. 4	..	..	..	L. extracted elsewhere. Did well.
"	6/24 J. 6	6/12 J. 4				
"	6/36 J. 12					

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
18	865	1	69	M.	R.	Good	Good	Usual operation, with iridectomy	Fluid vitreous lost
19	866	2	68	M.	R.	"	"	" "	None
20	905	1	53	F.	R.	"	Feeble. Mitral disease	" "	"
21	921	1	67	M.	R.	"	Good	" "	"
22	935	2	78	M.	L.	"	"	" "	"
23	973	1	77	M.	L.	"	"	After preliminary iridectomy	"
24	977	1	66	F.	L.	"	Albuminuria	Usual operation, with iridectomy	"
25	991	1	69	F.	R.	"	Good	Capsule forceps used, with iridectomy	"
26	1036	1	55	M.	R.	"	Gouty, alcoholic	Usual operation	"
27	1054	1	77	F.	R.	"	Good	" "	"
28	1209	1	64	F.	L.	Projection bad	"	" "	"
29	1210	1	52	F.	R.	Good	"	" "	"
30	1220	1	60	F.	L.	"	"	" "	"
31	1238	2	70	F.	R.	"	"	" "	"
32	1239	1	33	F.	R.	"	"	" "	Soft matter left
33	1343	1	57	M.	R.	"	"	" "	None
34	1379	1	65	F.	L.	"	"	" "	"
35	1380	1	60	F.	R.	"	"	" "	Fluid vitreous lost
36	1396	1	68	F.	L.	"	"	" "	"
37	1413	1	64	M.	L.	"	"	" "	Soft matter left
38	1560	1	60	F.	R.	"	"	" "	None
39	1564	2	62	M.	R.	"	"	" "	"
40	1588	1	64	F.	R.	"	"	Capsule forceps used, with iridectomy.	"
41	1608	2	50	M.	L.	Myopic.	"	Usual operation, with iridectomy	"
42	1658	2	35	M.	R.	Good	"	No iridectomy ..	"
43	1702	1	58	M.	L.	Mucocele. Sac dissected out	"	Usual operation, with iridectomy	"
44	1758	2	54	F.	L.	Good	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Entropion	6/24 J. 14					
None	6/60 J. 19	6/18 J. 8	Needling	..	6/6 J. 1	L., No. 1592 (year 1892).
„	6/24	6/12				
„	6/12 J. 6					
„	5/60 J. 15	6/60 J. 18	Needling	..	6/24 J. 12	R., No. 1008 (year 1892. L. vitreous opacities.
K. striata	6/18 J. 12	6/24 J. 14	Needling	..	6/36 J. 15	Vitreous opacities.
None	6/60 J. 10	6/18 J. 12	Needling	Glaucoma	6/24	
„	6/12 J. 12	6/9 J. 1	Paracentesis			
D. T.	6/24 J. 12	6/12 J. 8				
None	6/24 J. 12	6/12 J. 1				
Slight iritis . .	2/60	6/36 J. 8	Needling	..	6/18 J. 2	Capsule.
K. striata	6/24 J. 8	6/6 J. 2				
„	5/18 J. 12	6/60 J. 12	Needling	..	6/6 J. 4	
None	6/12 J. 8	..	..	..	..	L., No. 1312 (year 1891).
„	6/12 J. 10					
„	6/12 J. 1	6/36 J. 12	Needling	..	6/18 J. 1	
Iritis	1/60 J. 18	6/24 J. 6	Needling	..	6/12 J. 1	
None	1/60	2/60 J. 15	Needling	..	6/24 J. 8	Vitreous opacities.
Hyphæma	6/60 J. 16	6/6 J. 1				
None	6/36 J. 8	6/12 J. 1				
„	6/36 J. 6	6/18 J. 2				
„	6/36 J. 6	..	..	..	..	L. extracted elsewhere 15 years ago.
„	6/36 J. 16	6/12 J. 2				
„	6/36 J. 15	6/12 J. 4	..	..	..	L. operated upon nine years ago. Did well.
„	6/9 J. 1	6/6 J. 1				
„	6/18 J. 1	6/12 J. 1				
„	6/60	6/6 J. 2	..	..	..	L., No. 1210.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
1	14	1	67	F.	R.	Good	Cough	Conjunctival flap. Small iridectomy. Capsule opened with cystotome	Some soft matter left
2	145	1	62	F.	R.	Projection not good	Good	" "	None
3	247	1	56	M.	R.	Morgagnian cataract	"	No iridectomy	"
4	336	1	72	M.	L.	Good	"	With iridectomy	"
5	387	1	69	M.	R.	Brown nucleus. Clear cortex	"	" "	"
6	429	1	73	M.	L.	Brown nucleus	Slight cough and unsteady	No iridectomy. Lens delivered with difficulty	Iris did not go well back
7	473	2	60	F.	L.	Good	Alcoholic...	With iridectomy	None
8	652	1	62	M.	R.	"	Good	" "	"
9	671	2	76	M.	R.	"	"	With iridectomy. Capsule forceps used	"
10	757	2	54	M.	R.	"	"	With iridectomy. Peripheral capsulotomy	"
11	780	2	69	F.	L.	"	"	" "	"
12	900	1	75	M.	L.	Iris tremulous. Over-ripe dense brown cataract	"	Scoop extraction	Vitreous lost...
13	901	1	66	F.	L.	Leucoma adherens	"	With iridectomy	None
14	921	1	72	M.	R.	Brown nucleus	"	" "	"
15	986	1	53	M.	L.	" "	"	" "	"
16	1118	1	65	F.	L.	Over-ripe ..	"	No iridectomy	"
17	1283	1	41	M.	R.	? Secondary	"	" "	"
18	1351	1	68	M.	L.	Good	"	" "	"
19	1392	1	58	F.	L.	"	"	" "	"
20	1399	1	70	M.	L.	Old iritis ..	Not noted ..	With iridectomy. Lens extracted in capsule	"
21	1464	1	72	F.	R.	Good	Good	Usual operation. No iridectomy	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/60 J. 19	5/60 J. 16	Capsule extraction	Iritis	6/24 J. 4	
„	J. 16					
„	5/60 J. 16	6/18 J. 1				
„	J. 20	..				
2 post syn.....	5/60 J. 19	6/12 J. 1				
Prolapse of iris	..	..	1 Iridec- tomy 2 Evisce- ration	$\frac{1}{2}$ vitreous lost	..	Patient coughed much during the 1st night after ex- traction. R. did well.
None	3/60 J. 20	..	..	..	..	
Atropine irrita- tion						
Membrane in pupil	3/60	..	Paracen- tesis	..	..	L. did well. 2nd operation done for tension, which = $1\frac{1}{2}$.
None	..	..	..	..	..	L. did well.
Much iritis	6/60 6/6 J. 1	..	..	..	..	R. did well.
Suppuration		..	Eviscera- tion	..	..	R. lost after small- pox. Extraction done under chloro- form.
„	3/60 J. 20	6/9 J. 1	Capsule extraction	..	6/12	
Iritis	..	1/60	Needling	..	6/18 J. 6	
Post synechiæ.	..	6/18	..	..	..	L. quite healthy.
Struck eye....	6/60	5/60	Needling	..	6/18 J. 8	
Severe iritis ..	Fingers at 12''	6/12 J. 1				
Post synechiæ.	5/60	..	..	..	..	Anæsthetic — ether and chloroform.
Slight iritis...	6/60	6/24 J. 6	Needling.	..	6/18 J. 2	

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
22	1510	1	70	M.	R.	Good	Good	With iridectomy	None
23	1657	1	74	F.	L.	Ch.conjunctivitis	Weak	Incision enlarged. Iridectomy	"
24	1765	2	59	F.	R.	Good	Good	" "	"
25	1766	2	64	F.	L.	"	Not noted ..	" "	Globe very flaccid, soft matter left
26	1795	1	70	M.	L.	"	Good	" "	None
27	1802	2	72	F.	L.	"	"	No iridectomy	"
28	2050	1	59	M.	R.	"	"	With iridectomy	"
29	2063	2	42	F.	L.	"	"	" "	Soft matter left
30	2084	1	63	M.	L.	"	"	" "	None
31	2065	1	75	M.	R.	"	"	" "	"
32	2173	1	73	F.	R.	"	"	" "	"
33	2186	1	86	F.	L.	"	"	No iridectomy	"
34	2212	1	58	M.	R.	"	"	" "	"
35	2273	1	62	F.	L.	"	"	" "	"
36	2291	1	35	M.	L.	"	"	With iridectomy	Soft matter left
37	2323	1	71	F.	L.	"	"	" "	None

1	6	1	37	F.	L.	Good	Good	Conjunctival flap. Small iridec- tomy. Capsule opened with cystotome	None
2	56	1	45	M.	R.	"	"	After preliminary iridectomy	"
3	72	1	63	M.	R.	"	"	Usual operation with iridectomy	"
4	237	1	71	M.	R.	Hypermature cataract	"	Scoop extraction after iridec- tomy	Vitreous lost. . .
5	353	1	65	F.	R.	Old iritis, and colo- boma down and in	Rheumatic .	Extraction up- wards after a fresh iridec- tomy	None
6	428	1	68	F.	L.	Good	Good	No iridectomy	Soft matter left
7	327	2	37	M.	L.	"	"	With iridectomy	None
8	438	2	70	M.	R.	"	"	No iridectomy	"
9	606	1	54	M.	R.	"	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/24	..	..	..	..	L. excised for traumatic ulcer.
Slight iritis...	..	Hand- ^a movement	Needling Iridotomy	Some iritis after iridectomy	P. L.	
None	1/60	6/24	Needling 2	None	6/9 J. 1	L. did well after severe iritis. No. 1392.
..	6/6 J. 1	..	..	..	..	R. did well after extraction.
Slight iritis.						
None	6/60 J. 12	2/60	Needling	..	6/18 J. 6	R. did well, No. 1464.
"	6/18 J. 6					
"	1/60	6/24 J. 12	Needling	None	6/6 J. 1	R. did very well.
"	6/18 J. 12	..	..	..	..	Vitreous opacities.
"	6/36 J. 14	6/12 J. 4				
Some iritis...	4/60 J. 15	6/6 J. 1				
"	6/60 J. 18					
None	6/24 J. 12	6/6 J. 1				
"	6/24					
"	2/60	2/60	Needling	None	..	Still some unab-
"	3/60 J. 18	6/18 J. 8	Needling	"	6/6 J. 1	sorbed lens matter.

None	1/60 J. 20	1/60 J. 20	Needling	None	6/12 J. 1	
Some iritis and P. S.	6/24					
None	2/60	2/60 J. 19	Needling	"	6/6 J. 1	
"	1/60	1/60	Needling	"	6/6 J. 1	
Iritis	1/60	Hand-movement	..	..	..	Vitreous opacities.
None	6/6	6/18	Needling	"	6/6 J. 1	
"	6/12	..	..	..	..	R. did well.
"	4/60	6/60	Needling	"	6/6 J. 1	L. did well.
"	6/12 J. 1	6/18	Needling	"	6/12 J. 1	

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
10	613	1	65	F.	R.	Good	Good	No iridectomy ..	None
11	655	1	60	M.	R.	"	"	" "	"
12	692	2	61	F.	L.	"	Diabetes....	" "	"
13	807	1	27	F.	L.	Projection bad	Good	" "	"
14	906	1	72	F.	L.	Good	"	" "	"
15	1012	1	52	F.	L.	"	Bad health .	" "	Pt. unsteady...
16	1046	1	62	F.	L.	Dislocated lens traumatic	"	Scoop extraction and no iridectomy	Vitreous lost...
17	1071	2	66	F.	R.	"	Good	No conjunctival flap after preliminary iridectomy	None
18	1073	1	55	F.	L.	"	"	Usual operation. No iridectomy	"
19	1199	1	74	M.	R.	"	"	" "	"
20	1269	1	76	M.	L.	"	"	After preliminary iridectomy and artificial ripening	"
21	1274	1	56	F.	R.	"	"	No iridectomy	"
22	1337	1	76	M.	L.	Good	"	With iridectomy after attempt without	"
23	1354	2	65	F.	R.	Incomplete cataract	Diabetic....	After preliminary iridectomy	"
24	1369	1	75	F.	R.	Good	Good	Attempt without iridectomy; finally iridectomy done	A good deal of vitreous lost
25	1384	1	74	F.	R.	"	"	No iridectomy	None
26	1400	1	72	F.	L.	"	"	" "	"
27	1417	1	78	F.	L.	Myopia and fundus changes. Dark brown cataract	"	With iridectomy	Soft matter remained
28	1436	1	78	M.	R.	Incomplete cataract, amber coloured	Unsteady patient	After preliminary iridectomy and artificial ripening	"
29	1480	2	65	F.	R.	Good	Good	No iridectomy	"
30	1533	2	65	F.	L.	"	"	Extracted without iridectomy. Then iridectomy done.	Iris torn and bruised by lens

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Iritis and hyphæma after blow	6/6 J. 1	6/36	Needling	None	6/6 J. 1 ..	Some fundus changes in R. Vitreous opacities.
None	6/12	6/36	Needling	„	6/6 J. 1	
„	6/18	4/60	Needling	„	6/6 J. 1	
„	Hand-movement	Fingers at 18"	Needling	„	3/60	
Iritis.....	6/36 J. 12	6/24 J. 2	..	..	..	Vitreous opacities.
None	„	6/60				
„	6/12 J. 1	6/6 J. 1				
„	6/9 J. 1	..	..	..	..	L. did fairly well.
„	6/9 J. 1					
„	4/60					
„	6/12 J. 1	4/60	Needling	Hypopyon and vitreous opacities		
„	6/12 J. 2	6/6 J. 1				
K. striata....	6/60					
Iritis.....	1/60	..	..	..	..	L. lost after cataract extraction and excised.
„	6/24	6/9 J. 4				
Slight iritis ...	6/18	6/6 J. 1				
„ „ ...	3/60	4/60	2 Needling	None	6/12 J. 1	Choroidal atrophy.
None	1/60	1/60	Needling	„	1/60 J. 20	
„	1/60	1/60	Needling sclerotomy	Glaucoma and vitreous opacities	1/60	
„	6/60	..	..	..	..	L. did well.
„	6/60	..	..	..	..	R. did well.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
31	1604	1	66	F.	L.	Good	Good	With iridectomy	None
32	1620	2	83	M.	R.	Hypermaturation cataract	Mentally deficient	No iridectomy	"
33	1785	2	74	F.	L.	Good	Good	" " "	"
34	1786	2	72	F.	R.	"	"	With iridectomy	Iridectomy done after lens refused to move without
35	1803	1	79	F.	L.	Myopia chorioiditis	"	After preliminary iridectomy and artificial ripening	None

1	86	1	56	F.	L.	Incomplete cataract	Good	Conjunctival flap. After preliminary iridectomy. Capsule opened with cystotome	None
2	194	1	60	M.	L.	Good	Gouty	With iridectomy	"
3	254	1	41	F.	L.	Old interstitial K.	"	No iridectomy...	Soft lens matter left
4	313	1	74	F.	R.	Good	Deaf	With iridectomy	"
5	315	2	66	F.	R.	"	Good	" "	None
6	383	1	41	F.	L.	"	"	No iridectomy...	"
7	384	2	78	F.	R.	Myopic	"	With iridectomy	"
8	398	1	50	F.	L.	Good	"	No iridectomy...	"
9	400	1	58	M.	L.	"	Unsteady...	" " ...	Soft matter left
10	401	2	60	M.	L.	Brown lens .	Good	" " ...	" "
11	458	2	72	F.	R.	Good	"	With iridectomy	None
12	547	1	30	F.	R.	"	"	Corneal section. No iridectomy	"
13	577	2	41	F.	R.	Old interstitial K.	"	With iridectomy	"

Secondary Complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/24	6/6 J. 1				
„	6/36	6/60	Needling	..	6/36	L. failed from optic atrophy. There are vitreous opacities in R.
„	6/24 J. 10	6/6 J. 1	..	..	..	R. did well.
Entropion....	4/60	6/18 J. 4	..	..	..	L. did well.
None	6/24 J. 6	..	..	..	..	R. cornea nebulous. Vision very dim in 1895.

K. striata....	6/12					
Attack of gout	6/18					
None	6/36	6/9	..	..	..	Old choroiditis.
„	6/24 J. 10	6/6 J. 1	..	..	..	L., No. 1604 (year 1890).
„	6/24	6/6 J. 1				
Hyphæma, &c.	1/60	1/60 J. 20	..	..	..	L., No. 1417 (year 1890) R. and L. fundus changes, choroiditis, &c.
None	..	6/24				
Prolapse of iris.	..	..	1. Iridectomy for prolapse	Followed by hypopyon	6/6 J. 1	
Acute rheumatism			2. Needling			
			3. Iridotomy			
None	Fingers at 12''	6/6 J. 1	..	..	..	R., No. 655 (year 1890).
„	6/9	3/60	Needling	..	6/18 J. 4	L., No. 2323 (year 1890).
Broad ant. syn.	6/36	6/12				
None	6/24	6/18	..	..	..	L., No. 254. R. fundus changes.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
14	611	1	62	F.	L.	Good	Good	No iridectomy...	None
15	658	1	63	F.	R.	Shrunk lens	"	Iridectomy after iris was torn by lens	"
16	659	1	56	M.	L.	Good	"	After preliminary iridectomy and artificial maturation	Soft matter and capsule
17	674	1	74	M.	R.	Epiphora ..	"	No iridectomy...	None
18	768	1	62	F.	R.	Myopic	"	After preliminary iridectomy and artificial maturation	"
19	849	2	70	F.	R.	Good	"	Iridectomy after extraction	"
20	864	1	60	M.	R.	"	"	No iridectomy...	"
21	877	1	58	F.	R.	"	"	Usual operation after preliminary iridectomy and artificial maturation	"
22	885	1	56	M.	R.	Tremulous iris	"	With iridectomy. Scoop extraction	Vitreous lost...
23	914	1	54	M.	R.	Good	"	No iridectomy...	None
24	933	1	56	F.	L.	"	"	" " ...	Cornea flaccid..
25	936	1	69	F.	R.	"	"	" " ...	None
26	1044	1	44	F.	L.	"	"	" " ...	"
27	1045	1	63	F.	L.	Conjunctivitis	"	With iridectomy	"
28	1070	1	70	M.	L.	Not good ...	Unsteady...	" "	Scoop extraction. Vitreous lost. Capsule removed with forceps
29	1092	2	63	F.	R.	Good	Good	No iridectomy...	Lens matter left
30	1137	1	76	M.	L.	"	Unsteady ..	With iridectomy	None
31	1218	1	66	M.	L.	Hypermaturation cataract	Cough	" "	"
32	1257	1	70	F.	L.	" "	Good	" "	Iridectomy after extraction. Iris split

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/18 J. 12	6/18	Needling	..	6/9 J. 1	
Iritis	2/60 J. 20	6/9				
None	..	..	„	..	6/9 J. 1	
K. striata	P. L.	..	Needling. Capsule extraction	..	6/9 J. 1	Vitreous opacities. Disseminated choroiditis.
None	3/60	..	Needling	..	6/60 J. 8	
Iritis and P. S.	6/6	..	..	..	..	L., No. 428 (year 1890).
None	1/60	1/60	Needling	..	6/12 J. 1	Still lens matter.
Some post syn. and iritis	..	Hand- movement	Needling and cap- sule ex- traction	..	6/12 J. 1	
Prolapse of vitreous	6/60	..	..	..	..	Vitreous full of opacities.
Prolapse of iris	..	..	Prolapse returned			
Iritis and P. S.	6/18 J. 8					
Prolapse of iris	6/36	..	1. Iridec- tomy for prolapse	..	6/12 J. 1	
None	6/60	6/60	2. Needling	..	6/18 J. 1	
„	6/12		Needling	..	6/6 J. 1	
Prolapse of vitreous	3/60	6/36 J. 10	Vitreous prolapse removed			
Entropion	Hand- movement	Fingers at 12"	Capsule ex- traction	..	6/6 J. 1	L., No. 1046 (year 1890).
Atropine de- lirium	3/60	6/18				
None	6/36					
„	6/18					

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
33	1273	1	59	F.	L.	Good	Good	No iridectomy, ..	Difficult to extract
34	1389	1	68	F.	L.	„	Goitre	Iridectomy after extraction	None
35	1407	1	64	F.	L.	Old iridectomy downwards for iritis	Good	Section downwards	Vitreous lost...
36	1473	2	42	F.	R.	Hypermatre cataract	„	No iridectomy...	None
37	1474	1	64	F.	R.	Good	„	„ „ ...	„
38	1502	1	72	F.	L.	„	„	„ „ ...	„
39	1543	2	78	F.	L.	„	„	„ „ ...	Soft matter left
40	1756	1	59	F.	R.	K. P. and old iritis	„	With iridectomy	None
41	1776	1	81	M.	L.	Good	Ch. bronchitis	„ „	Iridectomy after extraction
42	1800	1	62	M.	R.	„	Good	No iridectomy...	None
43	1801	2	62	M.	R.	„	Gouty	„ „ ...	„
44	1874	1	59	F.	L.	„	Not good ...	„ „ ...	Soft matter left

1	23	2	57	M.	R.	Good	Good	Conjunctival flap. No iridectomy. Capsule opened with cystotome	None
2	34	1	66	M.	R.	„	„	„ „	„
3	43	1	57	F.	R.	„	„	„ „	„
4	62	1	64	F.	L.	„	„	„ „	„
5	81	1	47	M.	L.	„	„	Iridectomy after extraction	„
6	86	1	58	F.	R.	Morgagnian cataract	Rheumatic .	Scoop extraction. Iridectomy after extraction	„
7	127	1	58	M.	L.	Good	Good	With iridectomy	„
8	268	1	54	M.	L.	„	„	No iridectomy ..	„
9	322	1	61	M.	R.	„	„	„ „	„
10	381	1	74	M.	L.	Myopic	„	„ „	„
11	404	1	40	M.	R.	Good	„	„ „	„
12	474	1	50	M.	L.	„	„	„ „	„

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Results after 2nd operation.	Remarks.
Suppurative iritis	1/60	6/60	Capsule extraction	..	6/12 J. 1	
None	6/12	6/24	Needling	..	6/12 J. 1	
Slight iritis...	4/60	6/60				
Prolapse of iris	6/24	..	Iris re-placed	..	..	L., No. 383.
None	6/9 J. 1					
Prolapse of iris	6/12	6/12	Iridectomy for pro-lapse			
None	Hand-movement 6/18	6/9	..	...	..	R., No. 1369 (year 1890).
"	4/60	..	..	..	..	Lens matter present.
"	6/24					
"	6/60	6/12	Needling	..	6/6 J. 1	L., No. 194.
"	3/60	6/24 J. 10	"	..	6/6 J. 1	
Hyphæma	6/12	6/12	Needling	..	6/6 J. 1	L., No. 659 (year 1891).
"	6/12	6/6 J. 1				
None	6/12					
"	P.L.	..	..	..	..	No note as to why V. is so bad
"	Hand-movement	Hand-movement	Needling	..	Hand-movement	R. lost in infancy. Capsule still present.
"	6/24	4/60	..	..	..	Vitreous opacities and glaucoma.
"	6/18	6/9 J. 6	Needling	..	6/6 J. 1	
Hyphæna	6/12	6/60	2 Needling	..	6/9	
None	6/12	6/12	Needling	..	6/18	Shreds of capsule present.
"	Hand-movement		Needling	..	6/6 J. 1	
Prolapse of iris	6/12	6/6 J. 1	Iridectomy for pro-lapse			

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
13	636	1	54	F.	R.	Good	Good	No iridectomy ..	None
14	672	1	57	M.	L.	"	Gouty	"	"
15	675	1	64	M.	R.	Epiphora...	Good	With iridectomy	"
16	677	1	60	F.	L.	Good	"	No iridectomy ..	"
17	702	2	55	M.	L.	"	"	Iris much bruised. Iridectomy after extraction	"
18	744	1	50	M.	L.	"	"	No iridectomy ..	"
19	821	1	36	F.	R.	Myopic	"	"	"
20	843	1	64	M.	R.	Good	"	Iridectomy after extraction	"
21	876	1	72	F.	R.	"	Feeble	"	"
22	839	2	60	F.	R.	Myopic	Good	"	"
23	877	1	73	F.	R.	Good	"	No iridectomy ..	Iris split
24	890	1	46	F.	R.	"	Not good ..	" ..	None
25	946	1	60	F.	L.	"	Good	" ..	"
26	947	1	62	F.	R.	"	"	" ..	"
27	965	1	45	M.	R.	"	"	With iridectomy	Iris fell before knife
28	1065	1	75	M.	L.	Hyperature cataract	Feeble	" ..	None
29	1081	1	55	M.	L.	Good	Good	After prelimi- nary iridectomy	"
30	1088	1	71	M.	R.	"	"	With iridectomy	"
31	1101	1	65	M.	R.	Corneal nebula	Deaf	" ..	"
32	1126	1	65	F.	L.	Good	Alcoholic ..	" ..	Vitreous lost..
33	1129	2	73	F.	R.	"	Good	" ..	None
34	1214	1	85	M.	L.	"	"	No iridectomy ..	"
35	1242	1	66	M.	R.	Corneal nebulae	"	" ..	"
36	1307	1	78	F.	R.	Corneal nebula	Cough	" ..	"
37	1326	1	72	F.	L.	Good	Deaf and dumb	" ..	"
38	"	2	"	"	R.	"	" ..	With iridectomy	Iris buttonholed
39	1465	1	45	M.	R.	"	Good	" ..	" ..

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations	Result after 2nd operation.	Remarks.
Some iritis....	6/24	6/9 J. 1	Needling	..	6/12 J. 1	Much capsule present.
„	6/18					
„ ..	..	..	..	..	..	
None	6/12	6/12				
„	6/12	6/9				
Prolapse of iris	6/24	6/9	Iridectomy for prolapse			
Slight iritis...	6/18					
None	6/24					
„	6/6 J. 1	..	..	..	..	L. No. 677. Outer angle remained entangled
Prolapse of iris	1/60	6/24	1 Iridectomy for prolapse, 2 needling	..	6/6 J. 1	
None	6/36	6/12	Needling	..	6/12	
„	3/60	6/60	„	..	6/24	
„	6/60	6/18	2 Needling	..	6/12 J. 2	
„	6/12	6/12 J. 6				
„	6/24 J. 8	6/18 J. 6	Needling	..	6/6 J. 1	
„	6/9 J. 2					
„	6/36	6/36	Needling	..	6/9 J. 1	
„	6/12					
„	..	..	..	..	..	Much lens matter and capsule L., No. 1502 (year 1891).
Hyphæma....	6/36	..	..	..	..	
Vomiting and intraocular hæmorrhage	..	..	1. Iridectomy for prolapse. 2. Excision			
Post Syn.....	6/36					
„	6/24					
None						
„	6/60	6/36 J. 14	Needling	..	6/6 J. 1	

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
40	1487	2	74	F.	L.	Lac. obstruction	Good	No iridectomy ..	Iris buttonholed
41	1552	2	72	M.	L.	None	"	" "	" "
42	1751	1	51	M.	L.	"	"	With iridectomy	" "
43	1811	2	59	F.	R.	"	"	Iridectomy after extraction	None
44	1829	1	62	M.	R.	"	"	No iridectomy ..	"
45	1885	1	29	F.	L.	Mucocele...	"	" "	"

1	95	2	77	M.	L.	Good	Good	Conjunctival flap. No iridectomy. Capsule opened with cystotome	Lens difficult to extract
2	210	1	35	M.	R.	Projection bad. T+	"	Usual operation	None
3	211	1	36	M.	R.	Myopic, &c.	"	Iridectomy after extraction	Soft matter left
4	236a	1	56	F.	L.	Ch. conjunctivitis	Alcoholic...	Iris fell before knife	" "
5	243	2	76	M.	L.	Regurgitation from sac. Projection not good	Good	No iridectomy...	" "
6	327	1	68	M.	R.	Good	"	" "	None
7	350	1	70	F.	R.	"	Extremely infirm. Rh. arthritis	" "	"
8	373	2	62	M.	L.	"	Good	" "	"
9	413	1	74	M.	L.	"	"	" "	"
10	417	1	40	F.	R.	C. nebulous	Rheumatic .	" "	"
11	539	1	66	M.	L.	Good	Good	" "	"
12	579	1	59	M.	R.	"	Cough	With iridectomy	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Slight iritis ...	6/18	..	..	..	..	R. extracted eight years ago. Did well.
„ ...	6/36 J. 12	6/24 J. 10	..	..	..	R. extracted six years ago. Did well. L. vitreous opacities.
Iritis	6/12 J. 1					
None	6/18 J. 1	..	..	..	..	L., No. 1875 (year 1891).
Post. Syn.	6/24	6/12 J. 6				
Prolapse of iris	..	..	Iridectomy for prolapse			

None	6/36 J. 14	6/24 J. 8	Needling	..	6/9 J. 2	R., No. 1465 (year 1892).
None	Hand-movement	..	..	..	..	Choroidal atrophy and vitreous opacities
„	1/60	1/60	Needling 2	..	6/36 J. 15	L. total post synechia. R. choroidal atrophy.
Entropion	Fingers at 12''	..	..	..	..	Capsule and lens matter present.
Some P. S. ...	2/60	6/24 J. 6	..	..	..	R., No. 674 (year 1891). Capsule.
None	6/18 J. 12	..	..	..	..	Choroidal atrophy, &c.
Rh. arthritis ..	..	..	..	..	..	R., No. 1829 (year 1892).
None	6/36 J. 14	6/12 J. 1				
Prolapse of iris	6/18 J. 12	..	Iridectomy for prolapse	Outer angle remained entangled		
None	6/60 J. 19					
„	6/9 J. 1					
„	6/9 J. 6	6/12 J. 6	Needling	..	6/12 J. 6	Vitreous opacities.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
13	582	1	60	F.	L.	Good	Good	With iridotomy	None
14	602	2	51	M.	R.	"	"	No iridectomy ..	Iris difficult to replace
15	662	1	56	F.	L.	"	Feeble	" "	Lens difficult to deliver
16	687	1	61	M.	L.	Ch. conjunctivitis and blepharitis	Good	" "	None
17	689	2	47	F.	R.	Good	"	" "	"
18	719	1	66	M.	L.	"	Unsteady...	With iridectomy	"
19	777	2	70	F.	R.	"	Good	No iridectomy ..	Lens matter left
20	840	1	68	M.	L.	Epiphora...	"	Scoop extraction with iridectomy	Vitreous lost...
21	855	1	47	M.	R.	Good	"	Iridectomy after extraction	None
22	934	2	66	M.	R.	"	Unsteady...	With iridectomy	Soft matter...
23	948	1	62	F.	L.	"	Alcoholic...	No iridectomy ..	" "
24	1008	1	55	M.	R.	"	Good	" "	None
25	1026	1	83	F.	L.	Projection bad	"	With iridotomy	"
26	1089	1	58	M.	L.	Good	"	No iridectomy ..	"
27	1120	1	77	F.	L.	"	Ch. rheumatism	With iridectomy. Scoop extraction	"
28	1147	1	69	F.	L.	"	Good	No iridectomy ..	"
29	1267	2	64	F.	L.	"	"	" "	"
30	1275	1	36	M.	R.	"	"	" "	"
31	1371	2	75	M.	R.	"	"	With iridotomy	"
32	1432	1	71	F.	R.	"	Goitre	No iridectomy ..	Soft matter left
33	1442	1	58	M.	R.	"	Good	" "	None
34	1485	1	70	F.	R.	"	"	With iridectomy	"
35	1492	2	59	M.	L.	"	Cough	" "	"
36	1511	1	60	F.	R.	"	Good	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/60 J. 16	6/18 J. 4				
"	6/12 J. 1	6/6 J. 1	..	..	..	L., No. 1751 (year 1892).
"	6/36 J. 16	6/9 J. 1				
Atropine irritation	6/24 J. 12	6/6 J. 1				
None	6/18	6/24	Needling	..	6/6	L., No. 1044 (year 1891). Illiterate.
"	6/12 J. 12	6/9 J. 4				
"	Fingers at 4"	Hand-movement	..	..	..	L. operated upon elsewhere 6 years ago. Did well. R. lens matter remained.
Severe iridocyclitis	1/60	Hand-movement	Needling	..	Hand-movement	Lens matter still present.
None	6/36 J. 6	6/9 J. 1				
"	1/60	6/12 J. 1	..	..	..	L., No. 719.
"	Fingers at 12"	Hand-movement	Needling	..	Hand-movement	Lens matter still present.
"	6/12 J. 6	6/12 J. 4	Needling	..	6/12 J. 4	
"	6/12 J. 12	6/18 J. 6				
Prolapse of iris	6/24	..	Iridectomy for prolapse			
..	6/24 J. 14	6/6 J. 1				
Iritis and glaucoma	4/60 J. 20	6/36 J. 8	1 Paracentesis 2 Needling	..	6/24 J. 8	Vitreous opacities.
None	6/18 J. 2					
Ant. syn.....	6/12 J. 2	6/12 J. 1	Division of ant. synechia	..	6/12 J. 1	
"	6/24 J. 12	..	..	..	..	L., No. 1065 (year 1892).
Atropine irritation	6/24 J. 16	6/18 J. 6				
None	6/18 J. 1	6/6 J. 1				
"	6/60 J. 15	..	..	..	..	Lens matter still present.
"	Fingers at 6"	6/12 J. 1	..	..	..	R., No. 579.
"	6/24 J. 16	6/12 J. 1				

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operations.
37	1530	1	60	M.	R.	Corneal nebula, old iritis and coloboma down	Good.....	Extraction downwards. Scoop	Vitreous lost...
38	1552	1	60	M.	R.	Good	Alcoholic...	No iridectomy ..	None
39	1553	1	78	M.	L.	Corneal nebula	Good	With iridectomy	"
40	1607	..	60	..	..	Old iritis (coloboma down)	"	Extraction downwards. Scoop extraction	Fluid vitreous lost
41	1633	2	36	M.	L.	Good	"	No iridectomy...	None
42	1655	1	63	M.	L.	Corneal nebula	Alcoholic..	With iridectomy	"
43	1692	1	57	F.	L.	Good	Good	No iridectomy ..	"
44	1731	2	60	F.	R.	"	Alcoholic..	" "	"
45	1732	2	55	F.	R.	Projection bad	Lunatic and alcoholic	With iridectomy	"
46	1753	1	46	M.	L.	Old iridectomy for glaucoma	Good	" "	"
47	1821	1	67	F.	L.	Good	Albuminuria	" "	"

1	15	..	47	F.	R.	Projection bad	Good	Corneal section. Capsule forceps used to tear away capsule. Large iridectomy	None
2	18	..	60	M.	R.	Good	"	" "	"
3	20	..	66	M.	L.	Myopia -7.0 D. Incomplete cataract	"	" "	"
4	78	..	69	F.	R.	Bad projection	"	" "	½ vitreous lost..
5	108	..	66	F.	R.	Bad projection	"	Lens and capsule removed together	None
6	136	..	62	M.	R.	Good	"	Usual operation	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	5/60 J. 18					
Pupil drawn right up	6/36 J. 6	6/9 J. 1	..	..	..	Delirium tremens.
None	6/36 J. 12					
..	6/36 J. 16	..	..	..	..	Choroidal atrophy.
Atropine irritation, glaucoma, ant. synechia	6/18 J. 1	..	Division of ant. synechia (3)	..	6/12 J. 1	R., No. 1275.
None	6/24 J. 12	6/12 J. 1				
Prolapse of iris	2/60 J. 19	6/12 J. 1	Iridectomy for prolapse	Outer limb of iris entangled	6/12 J. 1	Capsule.
Iritis	1/60	6/24 J. 15	Needling	..	6/18 J. 8	L., No. 936 (year 1891).
K. striata,....	..	..	..	..	..	L. extracted elsewhere.
None	5/60 J. 19	3/60 J. 19	Needling	..	6/36 J. 15	R., absolute glaucoma.
„	3/60 J. 19					

None	1/60 J. 18					
„	6/36 J. 14	6/6 J. 1				
„	J. 18	6/24	..	..	..	Vitreous opacities.
„	2/60					
„	J. 16					
Post synechiæ	3/60 J. 18	6/6 J. 1				

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
7	185	..	57	F.	R.	Good	Good	Usual operation.	None
8	225	..	70	M.	R.	"	"	" "	"
9	226	..	70	M.	L.	"	Rheumatic..	" "	"
10	242	..	44	F.	L.	Choroiditis in R.	Good	" "	"
11	244	..	51	M.	L.	Good	"	" "	"
12	279	..	49	M.	R.	"	"	" "	"
13	291	..	52	M.	R.	"	Gouty	" "	$\frac{1}{3}$ fluid vitreous lost
14	311	..	54	F.	R.	"	Good	" "	Bleeding into A.C.
15	629	..	61	F.	R.	"	"	" "	None
16	634	..	66	M.	R.	Brown cataract	"	" "	"
17	742	..	64	F.	L.	Good	"	" "	"
18	763	..	..	F.	R.	"	"	" "	"
19	818	..	72	M.	L.	Incomplete cataract	"	" "	"
20	844	..	65	M.	L.	Brown nucleus	"	" "	"
21	875	..	64	F.	R.	Good	"	" "	Lens matter remained
22	905	..	62	M.	L.	"	"	" "	None
23	906	..	68	M.	R.	Old iritis. Lac. obstruction.	"	" "	"
24	1002	2	63	M.	R.	Good	"	" "	Some lens matter remains
25	1007	1	71	M.	L.	Corneal nebulae	"	" "	Lens sticky, some soft matter remains
26	1040	2	60	F.	L.	Good	"	" "	Soft matter remains
27	1071	1	58	F.	R.	Projection bad	"	" "	None
28	1105	2	74	M.	R.	Good	"	" "	"
29	1199	1	72	F.	R.	"	"	" "	Bleeding into A.C.
30	1249	2	63	M.	L.	Brown cataract	"	" "	Much soft matter left
31	1292	1	74	F.	R.	Good	"	" "	None
32	1674	2	..	F.	R.	"	"	" "	Soft matter left
33	1685	1	70	F.	R.	Hypermaturation cataract	"	" "	None

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	3/60 J. 16	6/12 J. 1				
"	J. 18	6/6 J. 1				
"	6/18 J. 6					
"	6/60 J. 16	6/18 J. 8	..	..	..	Vitreous opacities.
"	J. 20	6/36				
"	6/24 J. 6					
Kerato-iritis ..	6/36 J. 14	Hand-movement	..	..	..	Vitreous opacities. No details of fundus seen.
Iritis and post syn.	J. 16	6/9 J. 1				
None	6/36 J. 18	6/6 J. 1				
Slight iritis ..	1/60 J. 20	6/18 J. 16	Needling.	None	Not noted	Vitreous opacities.
None	6/60	6/6 J. 1				
Iritis and detached retina						
None	6/60	6/6 J. 1				
"	5/60 J. 15	6/12				
Iritis followed a blow	..	..	1. Curette evacuation, 2. excision in 6 months	..	..	2nd eye. First did well.
Slight iritis ..	6/60	..	..	..	..	2nd eye.
None	6/60					
"	2/60 J. 20					
"	6/60 J. 16	6/12	..	..	..	1st did well.
Iritis	6/24 J. 12	6/24 J. 12				
None	..	..	..	..	..	1st did well.
"	..	6/12 J. 8	Needling.	..	6/6 J. 1	1st did well.
Slight iritis ...	..	6/18 J. 1	..	..	..	1st did well.
Iritis and post syn.	..	6/6 J. 1				
None	6/60 J. 16	6/18	..	..	..	1st did well.
" ..	6/60 J. 10	6/24	..	..	..	Vitreous opacities.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
34	1819	1	55	M.	L.	Good	Good	Usual operation.	None
35	2011	1	63	M.	L.	"	"	" "	"
36	2028	1	66	F.	L.	"	"	" "	"
37	2135	2	67	M.	R.	"	"	" "	"
38	2147	1	70	F.	R.	"	Very deaf ..	" "	"
39	2191	1	70	F.	R.	"	Good	" "	"
40	2233	2	72	F.	L.	"	"	" "	"
41	2236	2	69	M.	R.	"	"	" "	"
42	2198	2	72	M.	L.	"	"	" "	"
43	2230	2	64	F.	R.	Incomplete cataract	"	" "	"
44	553	1	64	F.	R.	Good	"	" "	"

1	175	1	74	F.	L.	Blepharitis, &c., myopia, and fundus changes	Cough	Cylindrical corneal section. Very large iridec-tomy; capsule removed with capsule forceps	None
2	59	1	54	F.	R.	Old iritis and P.S. Coloboma upwards	Not noted ..	" "	"
3	312	2	67	F.	L.	Eye watery	Good	"	Vitreous bulged, but did not escape
4	375	1	66	F.	L.	P. inaction..	Paralysis of both 3rd nerves	" "	None
5	516	1	70	M.	L.	Good	Good	" "	"
6	522	1	53	F.	L.	"	"	" "	"
7	599	1	69	F.	L.	"	"	" "	"
8	569	1	36	M.	L.	"	"	" "	"
9	577	1	64	F.	L.	"	"	" "	"
10	578	1	60	F.	R.	"	"	" "	"
11	593	1	64	M.	L.	"	"	" "	"
12	617	2	74	F.	R.	Myopic	"	" "	"
13	685	1	14	M.	R.	Congenital cataract	"	Forceps extraction of lens and cap-sule.	Some vitreous lost
14	784	1	56	F.	L.	Good	"	Usual operation	"

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RESULTS OF CATARACT EXTRACTION.



Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	J. 14	6/9 J. 1				
Slight iritis and P.S.	6/36 J. 12					
None	6/24 J. 14					
Some iritis ...	6/60 J. 15	..	..	..	..	1st did well.
Iritis and P.S.	5/60 J. 15	6/9 J. 1				
Slight iritis ...	6/24 J. 16	6 9 J. 1				
None	3/60 J. 20	6/6 J. 1	..	..	..	1st did well.
"	2/60	6/18 J. 6	..	..	..	1st did well.
"	5/60 J. 15	..	..	..	..	1st did well.
Slight iritis ...	6/60 J. 18	6/12 J. 1	..	..	..	1st did well.
K.P., vitreous opacities	6/18 J. 8	1/60 J. 19	..	..	..	Last V. taken in 1893. 2nd eye suppurated No. 875.

None	3/60	6/24 J. 1	..	..	..	Myopic changes.
"	Hand-movement	6/60	..	..	..	Capsule and vitreous opacities.
None	6/9	..	..	..	..	R. did well.
Primary sup	puration	..	..	..	..	Pt. is imbecile. Eye finally shrunk.
Hypopyon, &c.	6/60					
None	6/36	6/6 J. 1				
"	4/60	6/9 J. 1				
Atropine irritation	6/12	6/9 J. 1				
None	6/12	6/36	Needling	..	6/9 J. 1	
"	4/60	..				
"	..	6/6 J. 1				
"	6/24	6/12 J. 1	..	..	..	Myopia L. No. 175.
"	..	..	..	..	..	Anæsthetic—ether.
Slight iritis ...	6/18 J. 6	6/24	..	..	..	Capsule.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
15	820	1	49	M.	R.	Good	Good	Usual operation.	None
16	821	1	49	M.	R.	Ch. conjunctivitis	Rh. arthritis	Small conjunctival flap	Lens displaced down and out with forceps
17	822	1	71	M.	R.	Brown cataract	Not noted ..	Usual operation.	Some vitreous lost
18	838	1	65	F.	L.	Good	" " "	" "	Whole lens displaced by capsule forceps
19	920	1	52	M.	L.	"	" " "	" "	None
20	943	1	61	M.	L.	"	Good	" "	"
21	961	1	76	M.	R.	"	"	" "	"
22	962	1	57	M.	R.	Ch. conjunctivitis	"	" "	"
23	678	1	..	M.	R.	Good	"	" "	"
24	1084	2	64	M.	R.	"	"	" "	"
25	1101	1	68	F.	R.	"	"	" "	"
26	1116	1	67	F.	L.	"	"	" "	"
27	1118	1	69	F.	R.	"	"	" "	"
28	1119	1	54	M.	L.	"	"	" "	"
29	1148	2	63	M.	R.	Conjunctivitis	"	" "	"
30	1175	1	58	M.	R.	Myopia, tremulous iris. C. nebulous	"	" "	Difficulty in extracting lens. Some vitreous lost
31	1235	1	70	M.	R.	Good	"	" "	None
32	1314	1	52	M.	R.	"	"	No iridectomy ..	"
33	1431	1	51	M.	R.	Glaucomatous	"	Scoop extraction	Vitreous lost...
34	1470	1	64	F.	L.	Good	"	Usual operation.	None
35	1507	1	43	F.	R.	Old iritis and coloboma	"	" "	"
36	1564	2	60	F.	L.	..	..	..	..
37	1568	2	56	F.	R.	Good	"	" "	None
38	1569	2	68	F.	L.	"	Diabetic...	" "	Soft matter remained
39	1607	1	46	M.	R.	"	Good	" "	None
40	1610	1	55	F.	L.	"	"	" "	"
41	1626	1	55	M.	L.	"	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Slight iritis ... None	6/6 J. 4 6/36	6/9 J. 1 6/12 J. 1	..	..	..	L. lost from injury.
Opacity of C..	6/36					
Iritis and K. striata	6/18 J. 10	..	..	..	..	Total post synechie in R.
None	2/60	..	..	..	..	R. blind from injury.
"	..	6/6 J. 1				
Iritis and P.S.	6/60	6/12 J. 1	..	..	..	6/12 J/1 in 1895.
" "						
" "	5/60 J/18					
" "	6/12	6/9 J. 1	..	..	..	L. did well.
Slight iritis ...	..	6/9				
K. striata.	6/36	6/9 J. 1				
None	6/60					
"	6/24 J. 6	..	..	..	..	L. old iritis after extraction. Did badly.
Eye shrinking Primary sup	No P.L. puration	..	..	..	..	L. excised for previous inflammation.
None	6/18	1/60 J. 19	1. Needling 2. Capsule extraction	None	6/9 J. 2	
Prolapse of iris	..	..	Iridectomy for prolapse	..	6/12 J. 1	
None	Hand	movement	..	..	..	Detached retina.
K. striata.	6/18	6/18 J. 1	..	..	..	Vitreous opacities.
None	6/60	..	..	..	..	Capsule present.
..	..	..	..	..	..	Corneal opacity.
None	6/18	..	..	..	..	Coloboma down and in.
None	..	6/9 J. 1	..	..	..	Detached retina in R.
"	6/60	..	..	..	..	L. did well. No. 784.
"	6/18					R. did well.
Slight iritis ...	6/18 J. 1					No. 1101.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
42	1638	1	71	F.	R.	Good	Good	Usual operation.	None
43	1679	1	66	F.	R.	"	"	" "	"
44	1698	1	63	M.	L.	Corneal nebulæ	"	" "	"
45	1742	1	66	M.	L.	Good	"	" "	Lens did not come readily
46	1754	1	64	M.	R.	"	"	" "	" "
47	1809	2	76	M.	L.	"	"	" "	" "
48	1830	2	53	M.	L.	"	Diabetes. Very bad health	" "	Pt. very unsteady

1	60	1	61	M.	L.	Good	Not very good. Albuminuria	Cylindrical corneal section. Very large iridectomy. Capsule removed with forceps	None
2	155	1	..	M.	R.	Hypermaturation cataract	Good	Usual operation.	"
3	214	1	52	M.	L.	Good	"	" "	"
4	284	1	60	F.	L.	Brown cataract	"	" "	Much bleeding.
5	367	2	64	F.	L.	"	"	" "	None
6	510	1	57	F.	L.	Good	"	" "	"
7	608	1	65	M.	L.	"	"	" "	"
8	647	1	58	M.	L.	"	"	" "	"
9	651	1	40	F.	R.	"	"	" "	"
10	694	2	67	F.	R.	Pupil inactive. Myopia	Paralysis of 3rd nerve	" "	"
11	724	2	66	M.	R.	Good	Good	" "	"
12	743	2	..	..	..	Divergent eye	"	" "	"
13	744	2	65	F.	R.	Good	"	" "	"
14	850	2	70	M.	L.	"	"	" "	"

Secondary complications.	Immediate result.	Remote results.	Secondary operations.	Complications after secondary operation.	Result after 2nd operation.	Remarks.
None	6/12 J. 1	6/60	Needling	None	6/60	Thrombosis of central artery of retina.
Some iritis....	6/12 J. 1					
None	6/60 J. 12	6/24				
„	6/18 J. 4	6/9 J. 1				
Some iritis....	6/36 J. 10	6/6 J. 1				
Prolapse of vitreous	6/36 J. 6	6/60 J. 14	..	..	..	R. did well. No. 961. Pupil drawn up. Eccentric vision.
None	..	..	..	..	..	R. extracted elsewhere; did well.

None	6/12	6/6 J. 1				
A few P.S....	6/24	6/60 J. 12	..	..	..	Fine changes at macula and at periphery.
„ ..	6/60	6/6 J. 1				
K. striata	6/24	6/18	..	..	..	R. did not do very well.
„	6/18 J. 6	..	..	..	..	Old choroiditis.
„	6/24					
„	6/6 J. 1	6/6 J. 1				
„	6/36	6/6 J. 1				
„	6/60 J. 14	..	..	..	..	L. suppurated. No. 375 (year 1890). Globe now shrunk-en. Old choroiditis.
„	6/12 J. 1	6/9 J. 1	..	..	..	L. did well. No. 1742 (year 1890).
„	6/18 J. 10					
Iritis and P.S.	6/12	..	..	..	..	1st eye did well.
None	6/9	..	..	..	..	1st eye did well. No. 1235 (year 1890).

No. of case.	Hospital Register.	Eye.	Age	Sex.	R. to L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
15	866	1	69	M.	R.	Good	Good	Usual operation .	None
16	886	2	58	M.	R.	"	"	" "	"
17	916	1	76	F.	R.	"	"	" "	"
18	1138	1	71	F.	R.	"	"	Conjunctival flap. Cystotome used to open capsule	Soft matter left
19	1333	2	76	F.	R.	"	"	" "	None
20	1351	2	65	F.	R.	"	"	Usual operation .	"
21	1395	1	50	M.	R.	"	Neurotic ...	" "	"
22	1400	1	67	F.	L.	"	Good	" "	"
23	1408	1	73	F.	R.	Ch. conjunctivitis	"	" "	"
24	1435	1	69	F.	R.	Incomplete cataract	Dyspeptic ..	" "	"
25	1505	1	70	F.	R.	Myopic	Deaf	" "	"
26	1508	1	70	M.	R.	Good	Good	" "	"
27	1510	1	65	M.	R.	"	Heart disease	" "	"
28	1515	1	62	F.	R.	"	Good	" "	"
29	1528	1	64	M.	R.	"	"	" "	"
30	1552	2	53	M.	L.	Old iritis, and coloboma down and in, movable lens	"	Section down and in. Scoop extraction	Fluid vitreous lost
31	1555	1	70	F.	L.	Good	"	Usual operation .	Soft matter left
32	1637	1	72	M.	L.	"	"	" "	None
33	1685	1	56	M.	R.	"	"	" "	"
34	1786	1	60	F.	R.	"	"	" "	"
35	1847	2	64	F.	R.	"	"	" "	"
36	1875	1	37	F.	R.	"	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Small prolapse of vitreous	6/12 J. 4					
Hyphæma	6/9 J. 1	..	..	..	..	L. did well. No. 60.
Slight iritis and K. striata	6/24	6/6 J. 1				
Hyphæma ...	6/24					
None	6/6 J. 1	6/6 J. 1	..	..	..	L. did well. No. 1470 (year 1890).
Purulent iritis	Fingers at 10"	Fingers at 6"	Iridotomy	Vitreous lost	6/18	
Atropine irritation	6/12	6/6 J. 1				
None	6/18					
"	6/36	6/18	..	..	..	Myopia.
"	6/24					
"	6/24	..	..	..	..	L. lost from injury.
"	6/12					
"	6/12	6/9				
Keratitis striata. Iritis and P.S.	6/60					
None	6/12	6/9	..	..	..	R. extraction. See No. 1431 (year 1890). L. vitreous opacities.
"	Fingers at 6"	..	..	..	..	Much capsule.
Slight iritis ...	6/36	6/9 J. 1				
None	6/18	6/9 J. 4				
Eye remained very red for many days	6/18					
K. striata....	6/18	..	..	..	..	L. did well.
"	6/60	6/24 J. 15	Needling	None	6/12 J. 8	

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
1	107	2	70	F.	L.	Myopic	Deaf,	Cylindrical corneal section. Very large iridectomy. Capsule removed with forceps	None
2	173	1	47	F.	L.	Fairly good projection	Good	Usual operation.	Soft matter left
3	222	2	61	F.	L.	Good	"	" "	None
4	239	2	63	M.	L.	"	"	" "	"
5	260	1	26	F.	L.	? Traumatic	"	" "	"
6	332	1	64	F.	L.	Projection bad	"	" "	"
7	335	2	56	M.	L.	Good	"	" "	"
8	445	1	65	M.	R.	"	"	" "	"
9	611	2	72	F.	L.	"	"	" "	"
10	683	2	77	F.	L.	"	"	" "	"
11	708	1	50	F.	R.	Myopic	"	" "	"
12	723	1	65	M.	L.	Good	Unsteady...	" "	"
13	737	1	60	F.	L.	"	"	" "	Vitreous lost ...
14	753	1	73	F.	R.	"	Rheumatic .	" "	"
15	834	1	60	F.	L.	"	Good	" "	None
16	854	2	73	M.	R.	"	"	" "	"
17	878	1	69	M.	L.	"	Gouty	" "	None
18	897	1	66	F.	L.	"	Good	" "	"
19	915	1	68	F.	R.	"	Unsteady ..	" "	Behaved badly. vitreous lost
20	936	1	70	F.	R.	"	Good	" "	None
21	1012	1	52	F.	R.	"	"	" "	"
22	1053	1	71	F.	R.	"	Fairly good	" "	"
23	1057	1	54	M.	R.	"	Cough	" "	"
24	1460	1	60	M.	L.	Slight conjunctivitis	Cough	" "	"
25	1501	1	87	M.	R.	Good	Very feeble.	" "	"
26	1507	1	67	F.	L.	"	Good	" "	"
27	1522	1	65	F.	L.	"	Neurotic. ..	" "	Soft matter left

Secondary complications.	Immediate result.	Remote result.	Secondary operations	Complications after secondary operation.	Result after 2nd operation.	Remarks.
None	6/24	..	..	..	..	R. did fairly well. No. 1505 (year 1891).
„	Hand-movement	Fingers at 6"	..	..	..	Optic atrophy. Disseminated choro- iditis.
Some iritis....	6/18	..	..	..	..	R. did well. No. 1515 (year 1891).
None	..	..	..	..	..	R. did well. No. 18 (year 1889).
„	6/9	..	..	..	..	R. healthy.
Kerato-iritis ..	6/24 J. 1	2/60	..	..	..	Vitreous opacities. Kerato-iritis in 8 months.
Slight iritis ..	6/6	..	..	..	..	R. did well.
Slight protrusion of vitreous	6/60					
None	6/36	6/6 J. 1	..	..	..	R. had thrombosis of retinal artery. See No. 1638 (year 1890).
Some iritis....	6/24					
Small vitreous prolapse	6/24	..	..	..	..	R. did well. No. 1292 (year 1889)
None	6/36	..	..	..	..	Capsule chiefly posterior.
„	6/12					
K striata....	6/60					
None	6/18					
K. striata....	6/24					
None	6/18					
„	6/36 J. 14	6/6 J. 1				
Kerato-iritis in L. ? Sympathetic, prolapse of vitreous	..	6/18 J. 4	..	..	..	L. excised for sympathetic ophth. R. remained good.
Corneal striæ .	6/60					
None	6/12 J. 10					
„	6/18 J. 6					
„	6/18 J. 6	6/18 J. 1				
„	6/12 J. 2	6/12 J. 1				
„	6/18 J. 6					
„	6/24	4/60 J. 14	..	..	..	Requires needling.
„	3/60 J. 19	6/24 J. 12	..	..	..	Vitreous opacities.

No. of case.	Hospital Regi-ter.	Eye.	Age.	Sex.	R. to L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
28	1536	1	..	M.	R.	Dense leuco- ma adherens. Coloboma above	Gouty	Usual operation .	None
29	1627	1	65	F.	L.	Myopic. Over-ripe cataract	Albuminuria and diabetes	" "	Vitreous pre- sented
30	1628	1	76	F.	L.	" "	Diabetes....	" "	None
31	1735	2	65	F.	R.	Good	Good	" "	"
32	1756	1	54	F.	L.	"	Diabetic....	" "	"
33	1781	1	64	M.	R.	"	Good	" "	"
34	1781	2	64	M.	R.	"	"	" "	"
35	1793	1	66	M.	L.	"	"	" "	"
36	1814	1	63	M.	R.	Post syne- chia	"	Scoop extraction	Vitreous lost..
37	1847	1	73	F.	L.	Corneal ne- bula. Myo- pia	Spinal cur- vature. Weak health	Usual operation .	None

1	73	2	57	M.	R.	Good	Good	Cylindrical cor- neal section. Very large iri- dectomy. Cap- sule removed with forceps	None
2	99	1	68	M.	L.	"	"	Usual operation .	"
3	101	1	77	F.	R.	"	"	" "	"
4	122	1	29	F.	R.	"	"	" "	"
5	165	1	57	M.	L.	"	"	" "	"
6	169	2	38	F.	R.	"	"	" "	"
7	191	1	50	F.	R.	"	"	" "	"
8	194	1	78	M.	L.	Corneal ne- bula. Post. synechia	"	" "	"
9	197	1	60	M.	R.	Ch. conjunc- tivitis	"	" "	"
10	214	1	60	M.	R.	Good	"	" "	"
11	228	2	50	F.	L.	"	"	" "	"
12	492	1	65	F.	R.	"	Diabetes....	" "	"
13	499	1	56	M.	R.	"	Alcoholic ..	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations	Complications after secondary operations.	Result after 2nd operation.	Remarks.
K. striata	1/60	..	..	..	..	L. shrunken globe.
Iritis	Fingers at 12"	..	..	..	..	Vitreous opacities.
None	3/60 J. 19	6/18 J. 6	..	..	..	Capsule.
"	6/6 J. 1	6/6 J. 1	..	..	..	L. did badly. No. 332.
Iritis and P.S..	6/60	6/9 J. 1	..	..	..	Quite good in 1895.
None	6/24					
"	6/24					
"	6/60					
Small prolapse of vitreous	6/18 J. 8	..	..	..	..	Vitreous opacities and K. striata.
K. striata	6, 36	..	..	..	..	Myopic crescent.
None	6/12 J. 1	..	..	..	..	L. did well.
"	6/24 J. 12	6/18				
"	J. 19	6/12 J. 1	..	..	..	Capsule present.
"	6/60 J. 14	6/6 J. 1	..	..	..	L. healthy. R. capsule
K. striata....	6/18 J. 10	6/6 J. 1				
None	6/18 J. 12	..	..	..	..	L. did well. No. 1875 (year 1891).
"	6/18 J. 6	6/12 J. 1				
K. striata....	6/60 J. 16	6/24 J. 8	..	..	..	Vitreous opacities.
None	6/36 J. 8					
"	6/60	6/18 J. 6				
"	2/60 J. 16	1/60	..	..	..	R. did well. No. 651 (year 1891) capsule.
Some iritis....	4/60 J. 15	6/24 J. 12	..	..	..	Capsule, &c.
None	6/24 J. 12	6/6 J. 1				

No of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time operation.
14	546	1	53	F.	L.	Good	Good	Usual operation .	None
15	603	1	44	F.	R.	"	Not good...	" "	"
16	629	1	59	F.	L.	"	Good	" "	"
17	652	1	70	M.	R.	" ..	Diabetes, unsteady	" "	"
18	653	1	63	M.	L.	"	Unsteady...	" "	"
19	785	1	81	M.	R.	"	Feeble and tremulous	" "	"
20	820	1	76	F.	L.	"	Alcoholic...	" "	"
21	886	1	64	F.	L.	Corneal nebulæ	Good	" "	"
22	904	2	60	F.	L.	"	"	" "	"
23	919	1	70	F.	R.	"	"	" "	"
24	938	1	58	F.	R.	"	"	" "	"
25	950	1	64	F.	L.	"	Diabetic...	" "	"
26	975	1	66	F.	L.	Myopic	Good	" "	Soft matter left.
27	990	1	78	F.	L.	Incomplete cataract	"	" "	None
28	1007	1	49	M.	R.	Good	Alcoholic...	" "	"
29	1013	1	74	M.	L.	"	Good	" "	"
30	1018	1	70	F.	L.	Corneanebulous	"	" "	"
31	1037	1	63	M.	L.	Good	"	" "	"
32	1053	1	68	F.	L.	"	"	" "	"
33	1076	1	67	M.	R.	"	"	Scoop extraction.	Vitreous lost. Soft matter left
34	1091	2	70	M.	L.	"	"	Usual operation .	None
35	1107	1	70	F.	R.	"	"	" "	"
36	1110	1	53	M.	R.	Myopic	Diabetic and asthmatic	Scoop extraction.	Fluid vitreous lost
37	1395	2	68	F.	R.	Good	Rheumatic..	Conjunctival flap. Small iridectomy. Capsule opened with cystotome	None
38	1498	1	72	F.	R.	"	Good	Usual operation .	"
39	1501	1	70	M.	R.	Myopic	Rheumatic..	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Iritis and K. striata	6/60 J. 16	6/12 J. 2				
None	6/36 J. 14	2/60 J. 18	..	..	..	Optic atrophy.
K. striata and iritis	3/60 J. 18	6/24 J. 4	Needling	..	6/24 J. 11	Capsule.
K. striata.....	1/60 J. 20	6/6 J. 1				
None	6/60 J. 14	6/18 J. 2				
„	1/60 J. 19	..	..	..	..	L. blind from an old injury. Choroidal atrophy and vitreous opacities.
„	6/60 J. 16					
„	6/36 J. 6	6/18 J. 4	..	..	..	Vitreous opacities.
„	6/18 J. 8	..	..	..	..	R. did well. Extracted elsewhere.
„	6/24 J. 10	6/9 J. 1				
„	6/18 J. 8	6/24 J. 6	Needling	None.....	6/6 J. 1	
„	6/60 J. 16	..	..	..	..	Unabsorbed lens matter present.
„	1/60 J. 16	..	..	..	..	Choroidal atrophy.
„	6/18 J. 12					
„	6/6 J. 1					
Secondary prolapse of vitreous, as result of intra-ocular hæmorrhage	..	..	Excision	..	..	Eye shrinking.
K. striata.....	6/18 J. 12	6/36 J. 12				
None	6/36 J. 15	6/9 J. 1				
„	6/18 J. 8					
„	1/60	6/24 J. 12	..	..	..	Still some unabsorbed lens matter.
Some iritis ...	6/24 J. 15	6/6 J. 1	..	..	..	Vitreous opacities.
Iritis and P. S.	6/24 J. 12	6/9 J. 2				R. did well. No. 652.
K. striata and iritis	1/60 J. 19	5/60 J. 10	..	..	..	L. lost 40 years before. R. vitreous opacities.
None	6/36 J. 12	6/12 J. 1	..	..	..	R. did well. No. 1400 (year 1891).
„	6/24 J. 14	6/18 J. 2				
„	6/60 J. 18	6/12 J. 1				

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. to L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
40	1521	1	58	F.	L.	Good	Good	Usual operation .	None
41	1541	2	55	F.	R.	„	Diabetic ...	„ „	„
42	1542	2	67	M.	L.	„	Good	Very little capsule removed	„
43	1561	2	66	F.	R.	„	„	Usual operation .	„
44	1562	1	58	M.	R.	Hypermature cataract	„	„ „	„
45	1582	1	46	F.	L.	Good	„	„ „	„
46	1640	2	40	F.	L.	„	Feeble	Conjunctival flap. Small iridectomy. Capsule opened with cystotome	„
47	1664	1	82	F.	L.	„	Good	Usual operation .	Cornea very flaccid
48	1697	1	32	F.	R.	„	„	„ „	Vitreous presented, but none escaped
49	1698	1	73	F.	R.	„	„	„ „	Iris buttonholed, and then iridectomy done on each side of this
50	1797	1	60	F.	L.	Black cataract	„	„ „	None
51	1845	2	51	F.	L.	Good	„	„ „	„
52	1907	1	48	M.	L.	„	„	„ „	Vitreous presented, but did not escape

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/12 J. 1					
Iritis and atropine irritation	6/36 J. 15	6/12 J. 1	..	..	..	L. did well. No. 1756 (year 1892).
None	6/36 J. 12	6/9 J. 1	..	..	..	R. No. 1076. Vitreous opacities.
Much iritis and irritation of conjunctiva	6/12 J. 6	6/6 J. 1	..	..	..	L. did well after extraction some years previously. Conjunctival sac irrigated with Hyd. Perchlor. 1—1000.
Intense irritation and K. striata	6/24	6/9 J. 1	..	..	..	Conjunctival sac irrigated with Hyd. Perchlor. 1—1000.
Marked K. striata	6/24 J. 19	..	..	..	..	Conjunctival sac irrigated with Hyd. Perchlor. 1—2000.
None	6/18 J. 15	..	..	..	..	R. No. 603.
Much K. striata	1/60 J. 19					
None	6/18 J. 4					
Very slow healing	6/60 J. 15					
None	6/18 J. 12	..	..	..	..	Vitreous full of opacities.
„	3/60 J. 18	6/24	..	..	..	R. did well, No. 191. L. some capsule present.
Much iritis ...	6/18 J. 6					

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
1	48	2	66	M.	L.	Good	Good	Small conjunctival flap. Iridectomy. Peripheral capsulotomy	None
2	74	1	65	M.	R.	"	"	" "	"
3	109	1	43	F.	R.	"	"	" "	"
4	133	1	47	F.	L.	Cornea nebulous. Post. synechiæ	Very deaf ..	" "	"
5	275	1	..	F.	R.	Projection bad	Bad cough..	" "	$\frac{1}{2}$ fluid vitreous lost
6	312	2	69	F.	L.	Good	Good	" "	None
7	327	2	47	F.	R.	Cornea nebulous, old iritis, &c.	"	Extraction downwards	"
8	374	1	62	M.	R.	Lagophthalmos. Myopia. Puncta obliterated	Facial paralysis	Lids pared and united. Usual operation for extraction	"
9	400	2	72	F.	R.	Old iritis and post synechiæ	Not noted ..	Whole iris removed owing to patient moving	"
10	421	1	61	F.	R.	Good	Good	Usual operation	"
11	503	1	60	F.	L.	"	"	" "	"
12	505	2	63	M.	L.	"	"	" "	"
13	514	1	48	M.	R.	"	"	" "	"
14	588	2	44	F.	L.	"	"	" "	"
15	596	2	72	M.	R.	"	"	" "	"
16	611	1	38	F.	R.	"	"	" "	"
17	656	1	55	M.	R.	"	"	Lens removed with scoop	$\frac{1}{2}$ of fluid vitreous lost
18	659	1	76	F.	R.	"	"	Usual operation	None
19	934	1	50	F.	L.	Black cataract	Bad health..	" "	"
20	879	1	83	M.	L.	Incomplete cataract	Good	" "	"
21	937	1	70	M.	L.	Post polar cataract incomplete	"	" "	"
22	1001	1	69	M.	R.	Good	"	Scoop extraction	Loose lens.
23	1096	2	76	F.	L.	Brown nucleus	"	Usual operation	None
24	1109	1	72	F.	R.	" "	Asthmatic ..	" "	"
25	1189	1	49	F.	L.	Good	Good	" "	"

Secondary complications.	Immediate result.	Remote vision.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/24 J. 15	3/60 J. 19	Needling	None	6/12 J. 2	R. did well.
„	J. 18	6/36	Needling	„	6/6 J. 1	
Hyphæma....	J. 14	6/6 J. 1		„	„	Anæsthetic — ether and chloroform.
„	1/60	1/60 J. 16	..	..	..	
Slight iritis and ulceration of C.						
None	J. 18	6/24	..	..	..	R. did well.
Ant. synechia	Fingers at 6"	..	..	..	..	1st eye did not do well. Ether and chloroform.
„ „	6/60 J. 16	6/18 J. 4				
None	6/60 J. 16	..	..	..	..	L. did not do well.
„	6/24 J. 12	2/60 J. 18	Needling	..	6/9 J. 1	
„	6/24 J. 12	6/12 J. 1		..	..	R. did well.
Iritis	6/60	6/18 J. 1	..	..	..	
None	6/60 J. 18	6/9 J. 1				
„	6/60	6/12 J. 1				
„	6/60	6/12 J. 1	..	..	..	L. did not do well. Hypopyon and glaucoma followed.
„	6/24					
„	6/60	6/9				
„	6/60	6/18				
Hypopyon iritis	Hand-movement	P. L.	..	..	..	Refused excision.
Capsule and hypopyon in 2 months						
None	Death. Pneumonia					
„	6/60 J. 15	..	..	..	..	R. did well.
Slight iritis...	..	Hand-movement	..	..	..	Detached retina.
None	6/24 J. 6					

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. to L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
26	1215	2	55	M.	L.	Hypermat- ture	Good.....	Usual operation.	None
27	1234	1	76	F.	R.	Good	"	" "	"
28	1256	1	56	F.	L.	"	"	" "	"
29	1289	2	80	M.	R.	Brown nu- cleus	"	" "	"
30	1641	1	51	F.	R.	Myopia. Deep A. C.	"	" "	"
31	1665	1	67	M.	L.	Extensive choroiditis	"	" "	"
32	1666	1	76	M.	R.	Good	"	" "	"
33	1690	1	38	M.	R.	? Secondary cataract	"	" "	Soft matter left
34	1700	1	61	F.	R.	Good	"	" "	" "
35	1722	2	55	M.	L.	"	"	" "	None
36	1854	2	68	M.	R.	"	"	" "	"
37	1881	1	74	F.	R.	"	"	" "	Soft matter re- mained
38	1915	1	36	F.	L.	"	"	" "	None
39	2093	2	51	F.	L.	Myopia. L. always de- fective	"	" "	"
40	2121	1	66	F.	R.	Projection fair	"	" "	"
41	2134	1	57	M.	L.	Good	"	" "	"
42	2227	2	37	M.	R.	"	"	" "	"
43	2234	1	57	F.	R.	Post polar opacity. Incomplete cataract	"	After preliminary iridectomy	"

1	98	1	63	F.	L.	Good	Good	Conjunctival flap. Iridectomy. Pe- ripheral section of capsule with knife	None
2	238	2	49	M.	L.	"	"	Usual operation.	"
3	401	1	50	F.	R.	"	Rheumatic..	" "	Soft matter left
4	487	1	55	F.	L.	"	Good	No conjunctival flap	None

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	1/60	6/36 J. 10	..	..	..	R. lost vitreous (No. 656).
Suppuration iritis	Hand- movement	..	Iridectomy	..	Fingers at 12''	Primary suppura- tion.
Panophthal- mic itis	..	..	Excision..	..	..	Optic atrophy. Vi- treous opacities.
..	Fingers at 12''	Hand- movement	..	..	..	Sympathetic ophth. caused by the L.
Serous cyclitis and K. P.	6/60 J. 12	6/60 J. 15	Iridectomy. Iridotomy	Iritis	Fingers at 5'	See No. 2093.
Suppuration ..	..	..	Excision	..	..	Primary suppura- tion.
None	4/60 J. 14	6/18 J. 4	..	..	..	L. healthy.
"	..	6/60	..	..	..	1st did well.
"	6/36 J. 12	6/9 J. 1	..	..	..	Wrinkled capsule.
"	3/60 J. 16	6/36 J. 8	..	..	..	T - 3.
Suppuration	..	P. L.	..	..	..	
None	6/60 J. 12	..	..	..	6/12 J. 12	Excised after K. P., &c., in both prob- ably sympathetic.
Slight iritis ...	5/60 J. 15	P. L.	Needling, Iridectomy, Excision	..	6/18 J. 1	See 1641.
None	5/60 J. 15	..	..	..	..	
Some iritis....	6/36 J. 15	6/36 J. 12	Needling	..	6/9 J. 1	Capsule.
Slight iritis ...	6/60 J. 2	6/6 J. 1	..	..	..	1st did well.
Iritis and glau- coma	6/24 J. 12	6/18 J. 4	Sclerotomy Iridectomy	..	P. L.	Eye shrinking.

Serous iritis and keratitis punctata	3/60	Hand- movement	..	..	..	Serous iritis in seven months.
None	6/24 J. 12	6/6 J. 1	..	..	..	R. did well (No. 514, 1889).
"	..	6/12	Needling.	Iritis ...	Not noted.	
"	6/12	6/9 J. 1	..	..	..	

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
5	531	2	65	F.	L.	Good	Good	Usual operation.	None
6	573	2	69	M.	L.	"	"	" " "	"
7	722	1	66	M.	L.	"	"	" " "	"
8	772	1	75	M.	L.	"	Not good ..	" " "	"
9	847	2	49	F.	R.	"	Good	" " "	"
10	886	1	60	F.	R.	"	"	" " "	"
11	934	1	49	F.	L.	"	"	" " "	"
12	1103	1	70	M.	R.	"	"	After preliminary iridectomy	"
13	1027	1	61	M.	R.	Morgagnian cataract	"	Usual operation	"
14	1131	2	63	M.	L.	Good	"	After preliminary iridectomy	Soft matter left
15	1506	1	36	F.	R.	"	Not good ..	" " "	None
16	1510	1	65	M.	R.	Incomplete cataract	Good	Usual operation.	"
17	1585	1	59	F.	L.	Good	"	" " "	"
18	1683	2	60	M.	R.	"	"	" " "	"
19	1761	1	67	M.	R.	"	"	" " "	Great difficulty in delivering lens
20	1895	1	75	M.	R.	"	Unsteady ..	Capsule lacerated with needle before making section	Lens loose
21	1896	1	58	F.	L.	"	Good	Usual operation.	None

1	156	1	54	M.	R.	Good	Good	Small conjunctival flap. Iridectomy. Usually peripheral section of capsule	None
2	"	2	54	M.	L.	"	"	" "	"
3	183	1	39	M.	R.	"	Diabetes ..	" "	"
4	211	1	55	F.	R.	"	Good	" "	"
5	212	1	54	F.	R.	"	Very bad health. Melancholic, &c.	" "	"

Secondary complication.	Immediate result.	Remote result.	Secondary operations	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Edema of conjunctiva	6/6 J. 1	6/6 J. 1	..	..	..	R. did well.
None	6/36	6/6 J. 1	..	..	..	R. did well.
"	6/60	6/60	Needling .	Suppuration	P.L.	L. - 2.
"	6/36					
"	6/18	6/6 J. 1	..	..	..	L. did well.
"	6/6 J. 1					
"	6/12 J. 1					
"	6/24 J. 12	6/9 J. 1				
"	2/60	6/24 J. 1	Needling .	..	6/24 J. 2	R. had K. punctata after extraction. In L. there were vitreous opacities, &c.
Irritation of lids	6/36	..	..	..	..	R. cornea nebulous, &c.
None	6/60	6/12 J. 1				
Some iritis and P.S.	6/24	6/6 J. 1				
Slight iritis ..	6/24 J. 6	6/12 J. 1	Needling .	..	6/5 J. 1	L. did well.
" ..	Hand-movement	Fingers at 10"	Needling .	Glaucoma and hypopyon	Fingers barely.	
Suppurative iritis	3/60	6/12 J. 2				
Iritis	6/24	6/6 J. 1				

None	6/60	6/60	Needling	None	6/24	Tobacco amblyopia.
"	6/36	6/60	Needling	"	6/24	" "
"	6/9	6/36	Needling	"	6/24	" "
"	6/60	6/24 J. 10	Needling	"	6/12 J. 1	
Corneal ulcer, iritis, and P.S.	6/36					

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
6	262	1	69	F.	R.	Good	Good.....	Usual operation.	None
7	286	2	67	M.	R.	"	"	" "	"
8	301	1	67	M.	R.	Projection not accurate	"	" "	"
9	509	2	55	F.	L.	Good.....	"	" "	"
10	511	2	61	M.	L.	"	"	" "	"
11	532	2	56	F.	R.	"	"	" "	"
12	846	2	55	M.	L.	"	"	" "	"
13	915	2	75	F.	L.	Black catar-act	"	" "	"
14	943	1	78	F.	L.	Good.....	"	" "	"
15	968	1	65	M.	L.	Black catar-act	"	" "	"
16	982	2	72	F.	R.	Good.....	"	" "	"
17	1313	1	49	F.	L.	Loose Lens	"	" "	"
18	1327	1	75	F.	L.	Good.....	"	" "	"
19	1380	1	64	M.	L.	"	"	" "	"
20	1411	2	50	M.	L.	"	"	" "	"
21	1456	1	51	F.	L.	"	"	" "	"
22	1458	1	72	M.	R.	Epiphora ..	Ch. bronchitis	" "	"
23	1571	1	70	M.	R.	Good.....	Diabetes ..	" "	"
24	1578	1	72	F.	R.	"	Good.....	" "	"
25	1613	1	60	F.	L.	Myopic. . .	Asthmatic and dyspeptic	" "	Lens difficult to extract
26	1636	1	68	M.	R.	Good.....	Alcoholic ..	" "	None
27	1697	2	79	F.	R.	"	Good.....	" "	"
28	1702	1	62	M.	R.	"	Ch. bronchitis	" "	"
29	1719	1	78	M.	L.	"	Good.....	" "	"
30	1737	1	72	M.	R.	Myopic....	"	" "	"
31	1743	1	75	F.	R.	Good.....	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Iritis, &c.	6/18	6/6 J. 1				
None	6/60	3/60 J. 19	..	..	..	L. did well after extraction six years ago. Dense capsule in R.
Iritis	6/24	6/18 J. 4	..	..	..	Vitreous opacities.
K. striata	6/60	6/6 J. 1	..	..	..	R. No. 211.
None	6/18 J. 1	..	..	..	..	R. No. 1027 (year 1890).
„	6/24	..	..	..	..	L. No. 487 (year 1890).
„	6/6 J. 1	6/18 J. 8	Needling. Division of membrane with keratome	..	6/18 J. 12 1/60	R. did well after extraction four years ago. Eye not quiet when V. was taken.
„	6/24	..	..	..	..	R. No. 1109 (year 1889).
„	6/36	6/12				
Iritis and P.S.	6/24	6/60 J. 15	..	..	..	R. lost after cataract extraction elsewhere. L. wants needling.
None	6/36	6/60 J. 15	..	..	..	L. did well after extraction three years ago. R. capsule present.
„	6/60					
Iritis and P.S.	6/12					
None	1/60	6/12 J. 10	..	..	..	Vitreous opacities.
Hyphæma . . .	6/12	..	..	..	..	L. did well after extraction five years ago.
None	6/24	6/18	Needling	..	6/6 J. 1	
„	6/12					
Iritis	6/60					
None	6/36	1/60 J. 20	Needling	..	6/24 J. 2	Fundus changes.
„	6/60	6/6 J. 1				
„	..	4/60	Needling	..	6/18 J. 2	
„	6/18	..	..	..	..	L. No. 943.
„	1/60	..	..	..	..	Capsule.
„	6/60	..	..	..	..	„
„	6/36	6/36 J. 15	..	..	..	Capsule and lens matter.
„	6/24	6/18 J. 8				

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. to L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
32	1807	1	81	M.	R.	Good	Fairly good	Usual operation.	None
33	1819	2	69	F.	L.	"	Unsteady ..	" "	"
34	1873	1	60	M.	L.	"	Good	" "	Vitreous lost ..
35	"	2	"	M.	R.	"	"	" "	None

1	38	1	49	F.	R.	Good	Good	Conjunctival flap. Iridectomy. Usually peripheral section of capsule	None
2	190	1	64	M.	L.	"	"	Usual operation.	"
3	208	1	71	M.	L.	Epiphora...	"	" "	"
4	220	1	58	M.	L.	Good	"	" "	Soft matter left
5	240	1	78	M.	L.	"	"	" "	None
6	262	2	51	F.	R.	..	..	..	..
7	273	1	55	F.	L.	"	"	" "	"
8	291	1	82	M.	R.	Epiphora...	"	" "	"
9	311	2	49	F.	L.	Good	"	" "	"
10	511	1	60	F.	R.	"	"	" "	"
11	644	2	75	F.	L.	"	"	" "	"
12	645	2	78	M.	R.	"	"	" "	"
13	705	1	74	F.	R.	"	"	" "	"
14	709	1	73	F.	R.	"	"	" "	"
15	835	1	60	F.	R.	Brown cataract	Albuminuria diabetes. Paralysis of R. arm	" "	"
16	914	2	68	F.	L.	Good	Good	" "	"
17	978	1	58	F.	L.	Projection fairly good	"	" "	Vitreous lost...
18	992	1	76	M.	L.	Good	Deaf	" "	None
19	1090	1	71	F.	R.	"	Good	" "	"
20	1097	2	58	M.	R.	"	"	" "	"
21	1445	1	64	F.	R.	"	Diabetes and gout	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Severe iritis one month after leaving Hosp.	4/60	P. L.	Iridotomy	Vitreous lost, hy-popyon	P. L.	
None	6/24	6/12 J. 2	..	..	..	R. No. 262.
" Atropine irritation	6/24 J. 6 6/24 J. 6	6/12 J. 2 6/12 J. 2				

None	6/6 J. 1					
"	6/12					
"	6/24 J. 6	6/9 J. 1	..	..	..	R. shrunken globe after accident.
" ..	..	3/60	Needling	..	6/6 J. 1	V. = 3/60 before needling.
"	6/6	6/6 J. 1	"	..	6/6 J. 1	L., No. 934 (year 1890).
..	..	..	..	..	..	
Iritis	6/36	3/60	Needling	..	6/9 J. 1	
None	6/18					
Hyphæma ...	6/6 J. 1	..	..	..	..	R. did well.
None	6/18					
"	6/6	6/6 J. 1	..	..	..	R., No. 1743 (year 1891)
Hyphæma ...	..	3/60	Needling	..	6/6 J. 1	L., No. 240.
Atropine irritation	6/24 J. 12	1/60	"	..	6/6 J. 1	
" ..	6/12					
None	3/60	..	..	..	..	Extensive fundus changes.
"	6/36	6/6 J. 1	..	..	..	R., cataract extracted eight years ago, did not do very well.
"	1/60	6/36 J. 12	Needling	..	6/18 J. 1	Vitreous opacities.
"	..	2/60 J. 19	..	..	..	Dense capsule.
"	6/36	6/9 J. 1	..	..	..	
"	6/18	..	..	..	..	L., No. 220.
Entropion	6/24 J. 4	..	..	..	..	R., No. 301 (year 1891).

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
22	1464	2	68	M.	L.	Projection fair	Good	Usual operation.	None
23	1481	1	57	F.	L.	Good	Cough	Capsule opened with cystotome	„
24	1621	1	58	F.	R.	Corneal nebulæ	Cough	Usual operation.	Soft matter left
25	1697	1	68	F.	L.	Brown cataract	Good	„ „	„ „
26	1736	1	63	F.	R.	Good	Confirmed invalid. Rh. arthritis	„ „	None
27	1825	1	68	F.	R.	„	Good	„ „	„
28	1826	1	34	F.	L.	„	Very thin and cachetic	„ „	„
29	1833	1	76	M.	R.	Lagophthalmos	Facial paralysis	Usual operation, but lids immediately sutured	„
30	1846	1	72	F.	R.	Has had lac. abscesses in both	Good, but extraction was followed by constant retching	Usual operation.	Cornea flaccid. .

1	23	1	73	M.	R.	Good	Good	Small conjunctival flap. Small iridectomy. Capsule opened with cystotome	Lens large and difficult to extract
2	24	1	53	M.	R.	„	„	Usual operation	None
3	45	1	57	F.	R.	„	„	„ „	„
4	100	2	69	F.	L.	Black cataract	„	„ „	„
5	119	2	60	M.	R.	Good	„	„ „	„
6	147	1	46	M.	R.	„	„	„ „	„

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Results after 2nd operation.	Remarks
None	6/60	..	..	..	..	Vitreous opacities. Disc pale.
„	6/9 J. 6					
„	1/60	6/24 J. 8	..	..	..	Lens matter and capsule. Still capsule.
„	5/60 J. 16	6/24 J. 6				
„	..	6/9 J. 1				
„	6/24	P.L.	..	..	..	Lost from sympathetic ophthalmia following L. extraction.
„	1/60	1/60	..	..	..	Capsule, &c.
„	5/60					
Suppuration ..	..	..	Evisceration			

None	6/24 J. 6	6/18 J. 4				
Atropine, delirium	6/9 J. 2	6/6 J. 1				
Serous iritis.	6/12 J. 6	P. L.	Iridotomy	..	P. L.	L. sympathetic ophthalmia.
K. P. Hypopyon						
Iritis	1/60	..	..	..	..	R. disseminated choroiditis, but it did well after extraction six years ago. L., large floating opacities.
None	6/12 J. 8	..	..	..	..	L., No. 2124 (year 1889).
„	6/12 J. 4	4/60 J. 19	..	..	..	Capsule.

No. of case.	Hospital Register.	Eye.	Age	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
7	277	2	68	F.	L.	Good	Unsteady...	Usual operation.	None
8	278a	1	49	F.	L.	"	Good	" "	"
9	313	1	81	F.	R.	Hyperature cataract	"	Scoop extraction	Iris buttonhole
10	331	1	67	M.	R.	Good	"	Usual operation	None
11	340	1	76	F.	R.	Myopic, hyperature cataract	"	" "	"
12	476	1	69	M.	R.	Good	"	" "	"
13	501	1	80	M.	L.	"	Unsteady...	" "	"
14	525	2	72	M.	L.	"	" ...	" "	"
15	543	1	69	M.	R.	"	Very bad patient	" "	"
16	567	2	47	F.	R.	"	Good	" "	"
17	588	1	55	M.	L.	"	"	" "	"
18	654	1	87	M.	R.	"	Unsteady...	" "	Soft matter left
19	761	2	74	M.	R.	"	" ...	" "	None
20	764	1	54	F.	R.	"	Good	" "	"
21	784	2	58	F.	R.	"	"	" "	"
22	901	2	68	M.	L.	"	"	" "	"
23	936	1	77	M.	R.	"	Very unsteady and broken down	" "	"
24	951	2	71	F.	L.	"	Good	" "	Soft matter left
25	972	1	55	M.	R.	"	"	" "	" "
26	1094	1	70	F.	L.	"	"	" "	None
27	1114	2	77	M.	R.	"	"	" "	Iris fell before knife
28	1126	1	48	F.	L.	"	"	" "	None
29	1137	1	41	M.	R.	"	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Iritis and K. P.	Hand-movement	..	Excision..	...	..	R., No. 45. Excised as an exciting sympathetic eye.
None	6/24 J. 1					
„	6/6 J. 1					
„	6/12 J. 6	6/6 J. 1				
K. striata.	6/60 J. 15	6/60 J. 14	..	...	..	Disc atrophic.
None	6/60 J. 12	6/18 J. 6				
„	1, 60 J. 20	6/36 J. 15	..	..	..	R. excised after cataract extraction elsewhere. Capsule present.
„	6/60 J. 8	6/12 J. 1	..	..	..	R., No. 1737 (year 1891). L., vitreous opacities and chorio- retinitis.
Iritis and P. S.	5/60 J. 16	6/60 J. 12	..	..	..	Vitreous opacities. Wound re-opened 3 months later. Very broken down subject.
None	2/60	6/24 J. 12	Needling	..	6/6 J. 1	L. did well after extraction 7 years ago.
Atropine irritation	6/60	6/12 J. 4				
Conjunctivitis	6/60 J. 15	6/24 J. 10				
None	3/60	..	..	...	..	L. extraction did badly elsewhere.
„	6/60 J. 16	6/18 J. 6				
„	6/60 J. 16	6/12 J. 1	..	..	..	L., No. 978 (year 1892).
„	6/18 J. 1	6/6 J. 1	..	..	..	R., No. 331.
Severe plastic iritis	Hand-movement	Fingers at 2' J. 20				
None	6/18 J. 12	..	..	..	..	R., No. 421 (year 1889).
„	6/18 J. 4					
Delirium. K. striata	6/9 J. 1	6/6 J. 1				
Suppurative iritis	Hand-movement	..	..	..	..	L., No. 992 (year 1892).
None	6/36 J. 4	6/6 J. 1				
Iritis and P. S.	6/36 J. 15	6/18 J. 6				

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
30	1153	2	76	M.	L.	Good	Very unsteady and broken down	Usual operation	None
31	1166	2	54	F.	L.	"	Good	" "	"
32	1473	2	70	M.	L.	"	"	" "	"
33	1474	1	55	M.	R.	"	Alcoholic ..	" "	"
34	1589	2	69	M.	L.	"	Most unsteady and broken down	" "	"
35	1591	1	67	M.	R.	"	Good	" "	"
36	1678	2	54	F.	R.	"	"	" "	"
37	1699	2	36	F.	R.	"	"	" "	"
38	1759	1	67	F.	L.	"	"	" "	Soft matter left

1	32	1	71	F.	R.	Projection bad	Good	Conjunctival flap. Medium sized iridectomy. Capsule opened with cystotome	Soft matter remains
2	144	1	66	F.	L.	Brown cataract	"	After preliminary iridectomy	Incision enlarged
3	266	1	65	F.	L.	Good	"	Usual operation .	None
4	383	1	69	M.	R.	"	"	" "	"
5	600	1	69	F.	R.	"	"	" "	"
6	695	2	62	F.	L.	"	"	" "	"
7	758	1	59	M.	L.	"	"	" "	"
8	781	1	62	F.	L.	"	"	Peripheral capsulotomy	"
9	833	2	78	M.	L.	"	Very deaf ..	Usual operation .	"
10	869	1	58	M.	L.	"	Good	" "	Some soft matter left
11	1100	2	70	M.	R.	"	"	" "	None
12	1150	1	62	F.	R.	"	"	" "	Wound enlarged. Lens came away with difficulty
13	1227	1	69	M.	R.	"	"	" "	Soft matter left
14	1244	2	62	M.	R.	"	"	" "	None

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations	Result after 2nd operation.	Remarks.
Kerato-iritis ..	Hand-movement	..	Iridotomy	..	1/60 J. 19	R., No. 936.
None	6/24 J. 8	6/24 J. 8	..	..	..	R., No. 764.
"	6/24 J. 12	6/12 J. 1	..	..	..	R., No. 476.
"	6/18 J. 12	6/6 J. 1	..	..	..	R., No. 543.
" ..	6/18 J. 12	6/12 J. 1	..	..	..	
"	6/18 J. 4	6/6 J. 1	..	..	..	
"	6/18 J. 12	6/18 J. 12	Needling	..	6/12 J. 8	L. extracted elsewhere, did well.
Iritis	6/24	6/12 J. 2	..	..	..	L., No. 1826 (year 1892).
None	Fingers at 6"	..	..	..	..	Lens matter still present.

Iritis and hypopyon						
None	J. 20	J. 18	Needling	None	6/24 J. 4	Vitreous opacities.
"	6/60 J. 10	6/6 J. 1	Excision	..	..	Excised 3 months after operation.
Suppuration of globe	..	..	..	..	..	Capsule.
None	4/60	..	..	..	..	1st did well.
"	..	..	..	..	..	
"	..	6/9 J. 1	..	..	..	
Iritis and post syn.	6/60 J. 20	6/60	Needling	..	6/36	Still capsule present.
" "	J. 18	6/36	Needling	None	6/12 J. 1	1st did well.
None	J. 16	J. 16	..	..	..	Capsule.
"	6/60 J. 12	6/12 J. 1	..	..	..	L. amblyopic.
Iritis	J. 20	6/9 J. 1	..	..	..	
"	Fingers at 6"	6/9 J. 12	..	..	..	
None	6/36 J. 10	6/18 J. 8	..	..	..	1st did well.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
15	1260	1	73	F.	L.	Hyperma- ture	Good	Usual operation.	None
16	1346	1	73	F.	R.	Good	"	" "	"
17	1350	2	58	M.	R.	"	"	" "	"
18	1352	2	70	M.	L.	"	"	After preliminary iridectomy	"
19	1383	1	60	F.	L.	Ch. conjunc- tivitis	"	Usual operation.	Soft matter left
20	1401	1	71	F.	L.	Good	"	" "	" "
21	1441	1	45	F.	L.	"	"	" "	None
22	1475	1	60	F.	R.	"	"	" "	"
23	1507	1	63	F.	R.	"	"	" "	Some soft matter left
24	1536	1	68	F.	L.	"	"	" "	None
25	1587	2	56	F.	L.	Pus in lac. sac	"	" "	"
26	1753	1	36	M.	L.	Vitreous changes	"	After preliminary iridectomy	"
27	1898	1	57	F.	R.	Good	"	Usual operation.	"
28	1967	1	64	F.	L.	"	Diabetic....	" "	"
29	2003	2	63	F.	L.	"	Good	After preliminary iridectomy	"
30	2007	1	68	F.	R.	"	"	" "	"
31	2067	1	34	M.	L.	Congenital aniridia. Glaucoma	"	Usual operation.	"
32	2108	1	76	M.	R.	Myopia. Projection not good	"	" "	"
33	2129	1	67	F.	L.	Good	"	Linear section...	Some soft matter left
34	2203	2	46	F.	R.	"	"	After preliminary iridectomy	None
35	2211	2	60	M.	R.	"	"	Usual operation.	"
36	2275	2	69	M.	L.	"	"	" "	Soft matter left

1	3	1	70	F.	R.	Projection fair	Cough	Conjunctival flap. Iridectomy. Capsulotomy with cystotome	None
2	24	2	61	F.	L.	Good	Cold and cough	Usual operation.	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	..	6/12 J. 8	1 Needling 2 Excision	Suppuration	Eye lost	
"	6/60 J. 14					
Slight iritis ...	6/60 J. 16	..	..	..	..	L. did well.
" " ...	6/12 J. 6	6/6 J. 1	..	..	..	1st eye suppurated and was excised (No. 383).
Iritis and post syn.	6/24 J. 12	6/12 J. 1				
Small prolapse	6/60 J. 16					
None	6/18	6/12 J. 1				
"	3/60	6/36 J. 10	..	..	..	Choroiditis.
"	1/60	6/6 J. 1				
"	6/60 J. 10	6/12 J. 1	..	..	..	Choroiditis near macula. Vessels small.
"	6/60	6/6 J. 1	..	..	..	R. did well.
Slight iritis ...	J. 14	6/24	Needling	None	6/6 J. 1	
" " ...	4/60 J. 16					
None	2/60	6/60	Needling	None	6/60 J. 12	No note as to why V. is not better.
"	6/24 J. 15	..	Needling	None	6/6 J. 1	R. did well.
"	6/36 J. 12	6/12 J. 1				
"	6/24 J. 4	6/18 J. 1				
"	6/60 J. 12	6/6 J. 1				
"	4/60 J. 12	6/6 J. 1				
"	6/60 J. 16	..	..	..	..	L. did well.
"	6/60 J. 16	5/60 J. 19	Needling	None	6/6 J. 1	L. did well.
"	3/60 J. 15	..	..	..	..	R. did well.

Some iritis ...	6/36	6/6 J. 1				
None	6/60	6/18 J. 4	Needling	None	6/6 J. 1	R. did well.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
3	40	1	60	F.	R.	Good	Ch. bronchitis.	Usual operation	Escape of vitreous
4	70	1	68	F.	L.	"	Good	" "	Sticky lens ...
5	154	1	68	M.	R.	"	"	" "	" "
6	226	1	60	F.	R.	"	"	After preliminary iridectomy	None
7	227	2	70	F.	R.	"	"	Usual operation.	"
8	247	1	60	F.	R.	"	"	" "	"
9	275	1	69	F.	L.	"	Feeble	" "	"
10	355	1	73	M.	R.	"	Quite deaf..	" "	Soft matter left
11	471	1	52	F.	R.	"	Good	After preliminary iridectomy	" "
12	506	1	70	M.	R.	"	"	Usual operation.	None
13	688	1	90	M.	R.	"	"	" "	"
14	702	1	48	M.	R.	"	"	" "	"
15	704	1	53	M.	L.	Mucopurulent conjunctivitis	"	" "	"
16	856	2	77	M.	L.	Good	"	" "	"
17	949	1	38	M.	R.	"	"	" "	"
18	1000	1	25	M.	R.	Old iridectomy, for iritis	"	" "	"
19	1002	2	69	M.	L.	Good	"	After preliminary iridectomy	"
20	1031	1	70	F.	R.	Myopia	"	Usual operation.	"
21	1032	1	57	F.	R.	Good	"	" "	"
23	1231	2	37	F.	L.	"	"	" "	Iris fell in front of knife
24	1268	1	53	M.	L.	"	"	" "	Cortex very sticky
25	1300	1	62	F.	R.	Hypermetropic	Rather feeble	Iridectomy done after extraction. Iris was much bruised	None
26	1467	2	61	F.	R.	Ch. conjunctivitis	Good	Usual operation.	None
27	1481	1	48	M.	R.	Good	"	Incision enlarged	Lens difficult to deliver
28	1635	2	60	F.	L.	"	"	Usual operation.	None
29	1653	2	53	M.	R.	Ch. conjunctivitis	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Slight iritis...	6/60					
" "	6/60 J. 8	6/6 J. 1	..	..	..	R. did well.
" "	6/18					
None	6/60 J. 10	6/9 J. 2				
Iritis and P.S..	6/24 J. 10	6/24 J. 4	..	..	..	L. did well. R. disc pale. Vitreous opacities.
" "	6/36	6/9 J. 1				
Primary supp.	ration	No P.L.	..	..	..	R. blind eye. Old rupture. L. globe shrunk.
None	Fingers at 12'	6/18 J. 15	Needling.	None	6/9 J. 1	
Small prolapse of iris	6/36					
Iritis and P.S	6/24	6/6 J. 1	Excision..	..	..	Iridocyclitis caused globe to shrink and eye to become blind.
None	6/9	6/6 J. 1				
" ..	6/6	6/5 J. 1				
"	6/12 J. 6	6/60 J. 12	Needling.	None	6/12 J. 1	
"	6/9	..	..	..	..	R. did well.
"	6/18 J. 10	6/18 J. 10	Needling 2	None	6/6 J. 1	
"	..	J. 20	1. needling	"	6/24 J. 12	
"			2. iridotomy			
"	6/36	..	..	..	..	R. vitreous, full of opacities. Myopic changes.
"	6/60 J. 1	6/18 J. 1	..	..	..	
Slight iritis...	6/18	6/60	Needling 2	None	6/6 J. 1	
K. striata	6/18 J. 4	6/9 J. 1	..	..	..	R. did well.
None	6/12 J. 1					
Iritis and many P.S.	2/60	6/24 J. 12	Needling.	Iritis	6/36	
Some iritis ...	6/36	6/12 J. 1	..	..	..	L. did well (No. 1383, year 1889)
None	6, 6 J. 2	6/9 J. 1				
"	..	6/12 J. 6	Needling.	None	6/6 J. 1	R. did well.
"	6/12	6/60	Needling.	"	6/6 J. 1	L. did well. (No. 704).

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
30	1691	1	68	F.	L.	Choroidal atrophy	Good	Usual operation.	Soft matter remained
31	1695	1	72	M.	R.	Good	"	" "	None
32	1839	2	71	M.	L.	Ch. conjunctivitis	"	" "	"
33	1927	1	72	M.	R.	Good	"	" "	Soft matter difficult to get away
1	208	2	63	F.	R.	Choroiditis.	Good	Conjunctival flap. Iridectomy. Capsule opened with cystotome	None
2	226	1	77	F.	R.	Brown cataract	"	Usual operation.	"
3	240	1	79	M.	R.	Old case of interstitial keratitis	"	" "	"
4	505	1	81	F.	L.	Good	"	Incision enlarged	"
5	506	1	65	F.	R.	Cornea nebulous. Lens loose	"	Usual operation.	"
6	576	2	77	F.	L.	Good	"	Wound enlarged	"
7	620	2	69	F.	L.	"	"	Usual operation.	Rather difficult to extract.
8	645	1	60	M.	R.	"	"	" "	Soft matter left. Outer angle of iris entangled
9	741	1	57	F.	R.	Old iridectomy for iritis. Brown cataract	"	" "	None
10	812	1	68	F.	R.	Good	"	" "	Lens difficult to extract
11	815	1	76	M.	L.	"	"	" "	None
12	859	1	64	F.	R.	"	"	" "	"
13	911	2	71	F.	L.	Myopic	"	" "	"
14	934	1	63	F.	L.	Good	"	" "	"
15	944	1	59	F.	L.	"	"	" "	"
16	1126	2	64	F.	R.	"	Diabetic ...	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operation.	Result after 2nd operation.	Remarks.
None	1/60	2/60	..	..	..	Choroidal atrophy.
"	6/6	6/18	Needling 2	None	6/12	
"	6/60 J. 16	6/60 J. 16	Needling .	..	6/6 J. 1	R. did well.
Iritis and lens matter present P.S.	..	6/6 J. 1				
None	3/60	..	..	..	..	L., No. 1691 (year 1890). In both there is choroidal atrophy.
"	3/60	6/18				
"	6/36	..	..	..	..	Cornea nebulous.
K. striata....	6/60	6/24 J. 4				
Suppuration ..	..	..	Excision.			
None	3/60	6/12	..	..	..	R., No. 226.
"	6/36	..	..	..	..	R., No. 2007 (year 1889).
"	3/60 J. 18	..	..	..	..	Disseminated choroiditis.
"	6/18 J. 4	6/36 J. 8	Needling .	..	6/12 J. 1	
"	6/18 J. 6					
Post synechiæ.	6/18					
" " "	6/60	6/60 J. 16	..	..	..	R., No. 1031 (year 1890). L. wants needling.
Slight iritis...	6/36	6/36	Needling 2	..	6/12 J. 1	
None	6/60	6/18				
..	..	..	..	..	..	L., No. 781 (year 1889).

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
17	1161	2	69	M.	L.	Hypermature cataract	Unsteady...	Usual operation	A little vitreous lost
18	1341	1	65	M.	L.	Good	Good	" "	Soft matter left
19	1447	2	76	M.	R.	"	"	" "	None
20	1451	1	73	F.	R.	"	Rather feeble	" "	"
21	1524	1	47	F.	L.	"	Good	" "	"
22	1610	1	67	F.	L.	Hypermature cataract	"	" "	"
23	1655	1	64	F.	L.	Good	"	" "	Lens difficult to deliver.
24	1755	1	68	F.	L.	"	"	" "	None

1	95	1	74	F.	L.	L. ptosis ...	Good	Conjunctival flap. Iridectomy capsule opened with cystotome	None
2	367	1	59	F.	R.	Good	"	Usual operation.	"
3	422	1	68	F.	L.	"	"	" "	"
4	441	1	59	M.	L.	"	"	" "	"
5	545	1	76	F.	L.	"	Feeble	" "	"
6	647	1	52	M.	R.	"	Good	" "	"
7	840	1	72	M.	R.	"	"	" "	"
8	883	2	59	M.	R.	"	"	" "	"
9	869	1	66	M.	L.	"	Unsteady...	" "	"
10	911	2	73	F.	R.	Hypermature cataract	Good	Scoop extraction	"
11	926	2	74	F.	L.	Myopic	"	Usual operation.	"
12	1067	1	72	F.	R.	Epiphora ..	Cough	" "	Difficult to deliver
13	1467	1	67	M.	L.	Good	Good	" "	None
14	1519	1	66	F.	R.	"	"	" "	Much soft matter remained

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operation.	Result after 2nd operation.	Remarks.
Slight iritis ...	6/36	4/60	..	..	..	R. extraction 6 years ago did fairly well. In both large vitreous opacities.
None	6/24	6/6				
K. striata.	3/60	6/6 J. 1	..	..	..	L. operated upon five years ago. It did well.
None	6/36	6/24 J. 12	Needling	None	6/6 J. 1	
"	6/60	6/6				
"	3/60	6/36 J. 12	Needling	" ..	6/9 J. 1	Tay's choroiditis.
Prolapse of inner angle of coloboma	..	..	Iridectomy			
Inner angle adherent to wound	6/36	6/36				

	Suppuration	..	1. Wound cauterized 2. Excision	..	..	Primary suppuration.
None	6/24	6/6 J. 1				
Prolapse of inner angle of iris	6/24	..	Iridectomy for prolapse. Iridotomy	Severe iritis	Hand-movement	Three months after extraction, kerato-iritis developed.
Hyphæma ...	6/24 J. 8	6/6 J. 1				
None	2/60					
"	6/9 J. 1	6/24 J. 12	Needling	..	6/6 J. 1	
Post synechia.	6/24	6/24 J. 4	2 Needling	..	6/18 J. 1	
None	6/24	6/6 J. 1	..	..	..	R., No. 411.
"	6/24	6/6 J. 1	..	..	..	
"	6/36	..	..	..	..	R. cataract extracted 11 years ago. Did badly.
Slight iritis ...	1/60	..	..	..	..	R. did well. L. lens matter and capsule present.
"	..	6/24 J. 10	2 Needling	..	6/18 J. 1	
None	6/18	6/18 J. 6	Needling	Eye very irritable	6/6 J. 1	L. lost after small-pox in childhood.
"	Hand-movement	Hand-movement				

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
15	1551	2	67	M.	R.	Good	Good	Usual operation .	None
16	1615	1	74	F.	R.	"	"	" "	"
17	1642	1	62	F.	R.	"	"	" "	"
18	1664	1	73	F.	L.	"	"	" "	"
19	1693	1	75	F.	L.	"	"	" "	"
20	1771	2	67	M.	R.	"	"	" "	"
21	1777	2	69	F.	R.	"	"	" "	"
22	1590	1	64	M.	L.	"	"	" "	"

1	133	1	66	M.	L.	Ch. conjunctivitis	Alcoholic, gouty	Conjunctival flap. Iridectomy; capsulotomy with cystotome	Soft matter left
2	157	1	44	F.	R.	Hypermature. Projection not good	"	Usual operation .	None
3	266	2	68	F.	L.		"	" "	"
4	267	1	65	F.	L.	Good	Mentally unsound	" "	Soft matter left
5	310	2	59	F.	R.	"	Good	" "	None
6	326	1	73	F.	R.	"	"	" "	Soft matter left
7	359	1	52	M.	R.	"	"	" "	None
8	392	2	74	F.	R.	Incomplete cataract	Unsteady ..	After preliminary iridectomy	"
9	448	1	68	M.	L.	Good	Rheumatic, gouty	Usual operation .	Soft matter left
10	486	1	70	M.	R.	"	Good	" "	None
11	599	2	70	F.	R.	"	Not good ...	" "	Vitreous lost...
12	664	2	68	F.	R.	"	Good	" "	None
13	686	1	73	M.	R.	"	"	" "	"
14	752	1	29	F.	R.	"	Fairly good.	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/36	6/9 J. 1	..	..	..	L., No. 1341 (year 1891).
Wound bulged	6/60 J. 15	6/36 J. 8	Needling	None	6/9 J. 4	
None	6/24 J. 6	6/18 J. 2				
"	6/60	6/24 J. 6				
"	6/60	6/60 J. 12	Needling 3	..	6/36 J. 15	Still dense capsule.
Atropine irritation	Fingers at 9"	Hand-movement	Needling	Eye very irritable for some time after iridectomy		
None	6/24	6/18 J. 6	..	..	..	L., No. 934 (year 1891).
"	6/24 J. 4	6/6 J. 1				

None	6/24 J. 12	6/6 J. 1				
"	6/18 J. 8	..	Needling	..	6/12 J. 2	
"	6/24 J. 4	6/24 J. 6	Needling	..	6/12 J. 2	R. cataract extracted nine years ago. Did well.
Delirium	1/60 J. 20	1/60 J. 19	Needling	..	6/12 J. 4	
None	6/12 J. 8	6/6 J. 1	..	..	..	No. 1524 (year 1891).
"	2/60 J. 19	6/24				
Hyphæma	6/24 J. 12	6/9 J. 1	..	..	..	Vitreous opacities.
None	6/24 J. 12	6/9 J. 1	..	..	..	L. suppurated. No. 95 (year 1892).
"	Fingers at 9"	6/24 J. 15	Needling	..	6/6 J. 1	
"	3/60 J. 20	..	..	..	..	Capsule, &c.
Plastic iritis ..	Fingers at 12"	P.L.	..	..	..	L. did badly. No. 422 (year 1892).
K. striata	1/60 J. 20	1/60 J. 20	Needling	..	1/60	L. extraction. No. 1610 (year 1891). R. central choroiditis.
Hæmorrhage at macula	2/60 J. 19	6/6 J. 2	..	..	..	Sight destroyed by macular hæmorrhage 11 months after extraction.
..	6/36 J. 12	6/24 J. 12	Needling 3	Eye very irritable	6/6 J. 1	

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
15	823	1	64	M.	R.	Good	Good	Usual operation .	Lens matter left
16	757	2	61	M.	L.	"	"	" "	" "
17	947	1	68	F.	R.	"	"	" "	" "
18	944	2	52	M.	L.	"	"	" "	" "
19	983	2	36	M.	R.	Congenital aniridia glaucoma	"	" "	None
20	1009	1	74	M.	L.	Good	Diabetes....	" "	Soft matter remained
21	1045	1	55	M.	L.	"	Good	" "	None
22	1103	1	62	F.	R.	"	"	Iris fell before knife, a piece afterwards removed	"
23	1124	2	74	M.	L.	"	"	Usual operation .	Lens difficult to deliver
24	1148	1	62	M.	R.	"	"	" "	" "
25	1177	1	62	M.	L.	"	"	" "	None
26	1250	1	79	M.	R.	"	Unsteady ..	" "	Lens difficult to deliver
27	1463	1	70	F.	L.	"	Good	" "	None
28	1464	1	60	F.	R.	"	"	" "	Lens difficult to deliver. Some chippy pieces left
29	1469	2	58	M.	L.	Hypermaturation cataract	"	" "	None
30	1486	2	64	M.	L.	Good	"	" "	"
31	1532	1	57	F.	R.	"	"	" "	"
32	1576	1	72	M.	R.	"	Unsteady ..	" "	"
33	1629	1	67	F.	L.	"	Good	" "	"
34	1630	1	74	F.		"	"	" "	Soft matter left
35	1676	1	53	F.	L.	"	"	" "	None
36	1712	2	65	M.	L.	Hypermaturation cataract	"	" "	"
37	1714	1	60	F.	L.	Amber-coloured cataract with cholesterine	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operation.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	Hand-movement	6/36 J. 20	..	..	..	Vitreous full of cholesterine crystals.
„	4/60 J. 19	..	..	..	..	R. did well after extraction elsewhere.
„	6/12 J. 1	6/9 J. 1				
„	6/12 J. 1	6/9 J. 1	..	..	..	R. No. 647 (year 1892).
„	6/24 J. 8	6/24 J. 2	..	..	..	L. No. 2067 (year 1889).
Prolapse of outer angle of iris	Fingers at 4 ^{1/2}					
None	6/18 J. 12	6/6 J. 1				
„	6/24 J. 16	6/9 J. 4				
..	1/60 J. 20	6/60 J. 12	Needling	None	6/12 J. 4	R. No. 840 (year 1892).
None	3/60 J. 20	..	..	..	..	Disc atrophic.
Purulent iritis	6/36 J. 19	6/36 J. 19	..	..	..	Vitreous opacities.
Atropine irritation	6/60	6/6 J. 1				
„ „	6/60 J. 19	6/12 J. 1	..	..	..	Vitreous opacities and capsule.
None	5/60 J. 15	6/6 J. 1				
„	6/60 J. 15	..	..	..	..	R. did well after extraction several years ago.
„	4/60 J. 19	6/60 J. 19	..	..	..	Cholesterin in vitreous R. No. 823.
Some iritis and P. S.	6/24 J. 12	6/6 J. 1				
„ „	6/36 J. 14	6/6 J. 1				
Much K. S. „	3/60 J. 18	6/24 J. 6				
Atropine irritation	6/24	6/6 J. 1				
None	6/15 J. 6	6/24 J. 8	Needling	None	6/6 J. 2	
Atropine irritation	6/12 J. 10	6/12 J. 1	..	..	..	R. did well after extraction elsewhere.
None	6/36 J. 15					

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
38	1733	2	67	M.	R.	Good	Unsteady ..	Usual operation .	None
39	1943	1	59	M.	L.	"	Good	" "	Much difficulty in getting lens away

1	10	2	53	F.	L.	Good	Good	Conjunctival flap. Iridectomy. Capsule opened with cystotome	None
2	137	1	75	M.	L.	"	"	Usual operation.	"
3	153	2	61	M.	L.	"	"	" "	"
4	178	2	63	M.	L.	"	Heart disease	" "	Vitreous lost ..
5	191	2	70	F.	L.	"	Good	" "	None
6	237	1	72	M.	R.	"	"	" "	Vitreous lost ..
7	352	1	71	F.	L.	"	"	" "	None
8	476	..	72	M.	R.	"	"	" "	"
9	"	"	"	"	L.	"	"	" "	"
10	553	1	60	F.	R.	"	"	" "	"
11	646	1	50	M.	L.	"	"	" "	"
12	700	1	62	F.	L.	"	Cough	" "	"
13	981	1	69	F.	R.	"	Good	" "	"
14	1023	1	..	F.	L.	"	"	" "	"
15	1025	2	89	F.	L.	"	"	After preliminary iridectomy	"
16	1090	1	70	F.	L.	Conical cornea	"	" "	"
17	1164	2	60	M.	L.	Good	"	No iridectomy ..	"
18	1187	1	64	F.	L.	"	Ch. bronchitis	" "	"
19	1218	1	32	M.	L.	"	None	" "	"
20	1324	2	59	M.	R.	"	"	" "	"
21	1454	2	32	M.	R.	"	"	" "	"
22	1456	1	80	M.	R.	Pterygium	"	" "	"
23	1467	1	75	F.	L.	Good	Eczema	" "	"
24	1491	2	60	F.	R.	"	Good	" "	"
25	1492	2	68	F.	R.	"	"	" "	"
26	1504	1	68	M.	L.	"	Feeble	Usual operation no iridectomy	"
27	1557	1	62	M.	R.	"	Gouty	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
K. striata	3/60 J. 20	..	..	..	..	L. No. 1590 (year 1892).
" "	6/60 J. 8	6/9 J. 4				
Slight iritis...	6/60 J. 12					
Acute iritis ..	6/36 J. 8	6/6 J. 1				
None.....	6/36 J. 12	..	..	..	6/24 J. 6	R. did well.
"	J. 20	..	Needling	..		
Iritis	6/60	6/12				
None.....	2/60	..	1. Needling 2. capsule extraction	..	6/12	
Iritis	6/60 J. 14	6/6 J. 1				
None.....	6/24 J. 16	6/18 J. 4				
"	6/60 J. 16	3/60	Needling	..	6/24	
"	3/60 J. 18	6/12 J. 1	Needling	..	6/9 J. 1	
Slight iritis ..	..	6/36 J. 14	Needling	..	6/24	
None.....	3/60	6/12 J. 1	..	..	..	Vitreous opacities.
"	3/60	3/60	Needling	Glaucoma	1/60	
Slight iritis	/ J. 20	6/18 J. 1				
None.....	..	6/36 J. 4				
"	1/60	6/36 J. 18	Needling			
Iritis and hæmorrhage.						
None.....	..	6/36 J. 10	Needling	..	6/9 J. 1	
"	6/36 J. 12	6/12 J. 6	"	..	6/9 J. 1	
Slight iritis ..	3/60	..	..	..	..	1st No. 263 (1889)
None.....	6/9 J. 1	..	..	..	..	No. 1218.
Iritis	6/60 J. 20	4/60 J. 20	Needling	..	6/36 J. 14	
"	1/60	6/24 J. 8	"	..	6/24 J. 12	
Prolapse of iris	1/60	6/6 J. 1	Iridectomy for prolapse	..	6/6 J. 1	
Iritis	6/36 J. 12	..	..	..	..	No. 1023.
Slight iritis ..	6/60 J. 16					
Iritis	6/60	6/24 J. 12				

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
28	1693	1	48	M.	L.	Old iritis. Iridectomy down and in	Cough	Extraction downwards	Vitreous lost ..
29	1725	2	75	F.	R.	Good	Good	Usual operation No iridectomy	None
30	1726	2	64	F.	R.	"	"	" "	"
31	1778	1	57	F.	R.	"	"	" "	"
32	1778	"	"	"	L.	"	"	" "	"
33	1793	1	67	M.	L.	"	Albuminuria	" "	"
34	1833	2	67	F.	L.	"	None	" "	"
35	1932	1	67	M.	R.	"	"	" "	"
36	2122	1	65	F.	R.	"	"	" "	"
37	2283	1	63	F.	L.	"	"	Usual operation with iridectomy	"
38	2286	1	62	F.	L.	"	"	Without iridectomy	"

1	80	1	63	M.	L.	Good	Good	Conjunctival flap. No iridectomy. Capsule opened with cystotome	None
2	105	1	75	F.	R.	"	"	Usual operation	"
3	146	1	57	F.	R.	"	"	" "	"
4	191	2	65	F.	L.	"	"	" "	"
5	291	1	56	F.	R.	"	"	" "	"
6	298	2	50	M.	L.	Morgagnian cataract	Hemiplegia	" "	"
7	381	2	65	F.	R.	Good	Congenital syphilis	With iridectomy	"
8	505	2	57	M.	L.	"	Good	No iridectomy ..	"
9	555	2	61	F.	R.	"	"	" "	"
10	599	2	57	F.	L.	"	"	With iridectomy	"
11	618	"	58	F.	L.	"	"	No iridectomy ..	"
12	618	"	"	"	R.	"	"	" "	"
13	624	2	63	M.	L.	"	"	With iridectomy	"
14	656	2	61	F.	L.	"	"	" "	"
15	709	1	69	F.	R.	"	"	No iridectomy ..	"
16	829	2	50	F.	L.	"	"	With iridectomy	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	/ J. 20					
Iritis	J. 12	6/24 J. 12	Needling	..	6/24 J. 12	No. 1467.
Slight iritis ..	J. 10	6/36 J. 12	Needling	..	6/18 J. 1	No. 1187.
„ ..	6/36 J. 8	6/9 J. 2				
„ ..	„	6/24 J. 12				
None	6/24 J. 12	..	Needled .	..	6/24 J. 15	
Slight iritis ..	1/60	6/18 J. 2	Capsule extraction	..	6/9 J. 2	
Hyphæma....	..	3/60 J. 14	Needling .	..	4/60 J. 15	
None	6/60 J. 12	6/6 J. 1				
„	6/60 J. 16					
„	6/60 J. 15					
Prolapse of iris.	..	..	Iridectomy for prolapse	..	6/6 J. 1	
Slight iritis						
None	6/18 J. 6					
Prolapse of iris	6/60 J. 12	6/60 J. 12	Iridectomy for prolapse	..	6/9 J. 1	
Slight iritis...	6/36	6/6 J. 1	..	..	..	R., No. 89.
Good	6/9 J. 1	6/6 J. 1				
„ ..	..	6/9 J. 1				
Good	6/24	..	1. Capsule extraction.	Vitreous lost. Iridocyclitis	6/36 J. 8	Eye inflamed and degenerated later.
„	6/12	6/60	2. Excision			
„	6/24 J. 10	6/9 J. 1	Needling	..	6/6 J. 1	R. (year 1888).
Slight iritis...	6/24	6/12 J. 6	..	..	..	L. (year 1887).
None	6/6	6/6 J. 1	..	..	..	R. (year 1890).
„	6/24	6/36	Needling	..	6/9 J. 1	
„	6/36					
„	6/36	6/60 J. 15	Needling	..	6/18 J. 2	R. (year 1889).
„	6/24	6/12 J. 2				
Slight iritis...	6/6 J. 1					

No. of case	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
17	985	1	36	F.	L.	Good	Diabetes....	No iridectomy ..	None
18	986	1	75	F.	R.	Morgagnian	Good	" " "	"
19	1023	1	60	F.	R.	Good	Heart disease	" " "	"
20	1256	2	35	M.	R.	"	Good	" " "	"
21	1276	2	82	M.	R.	"	"	" " "	"
22	1448	2	75	F.	L.	"	"	With iridectomy	"
23	1523	1	73	F.	R.	Morgagnian	"	No iridectomy ..	"
24	1548	1	48	F.	L.	Good	"	" " "	"
25	1619	1	78	M.	R.	"	"	" " "	"
26	1799	1	64	M.	L.	Ch. conjunctivitis	"	" " "	"

1	41	1	50	M.	R.	Good	Cough.....	Conjunctival flap. After preliminary iridectomy, capsule opened with cystotome	Vitreous lost...
2	63	2	64	M.	R.	"	Good	Usual operation. No iridectomy	Good
3	82	1	76	F.	L.	"	"	" "	"
4	112	1	59	F.	L.	"	"	" "	"
5	167	1	69	F.	R.	"	"	Corneal section .	"
6	186	1	72	M.	R.	"	"	Usual operation. No iridectomy	"
7	273	1	73	M.	L.	"	"	With iridectomy	"
8	274	1	63	M.	L.	"	Scirrhus of breast	" "	"
9	289	1	46	M.	L.	"	Gouty.....	" "	"
10	416	1	60	M.	L.	"	Good	No iridectomy...	Vitreous lost...
11	440	2	58	F.	L.	"	"	" "	None ..
12	452	1	65	F.	L.	"	"	With iridectomy	"
13	455	2	50	M.	L.	"	"	After preliminary iridectomy	Vitreous lost...
14	496	1	77	F.	R.	"	Deaf	With iridectomy	" " "
15	556	1	60	F.	L.	"	Good	" "	None
16	568	2	70	F.	L.	"	"	No iridectomy..	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Prolapse of iris	6/12	6/60 J. 18	1. Iridectomy for prolapse.	..	6/12 J. 1	
Prolapse of iris	6/18 J. 6	..	2. Needling Iridectomy for prolapse	..	6/9 J. 1	
Suppuration	..	..	Excision			
None	6/12 J. 6	..	Iridectomy for prolapse	..	6/60 J. 20	Mental condition very bad. L. extracted 17 years ago. R., No. 986.
Prolapse of iris	..	..				
None	6/60	6/36	Needling	..	6/12 J. 1	
"	6/12					
"	6/36	6/24	Needling 2	..	6/24	
"	6/60	6/9 J. 2				

None	6/18	6/9 J. 1				
Good	..	6/6 J. 1	..	..	..	L. extracted 1890.
"	6/24					
" Ant. synechia .	..	6/6 J. 1				
Prolapse of iris	6/9 J. 1	..	Iridectomy for prolapse	..	6/6 J. 1	
None	6/12					
Slight iritis..	6/12					
None	4/60	6/6 J. 1				
Iritis	6/24	6/6 J. 1				
None	6/36	3/60	Needling	..	6/6 J. 1	R. extracted 1890.
"	6/36	6/6 J. 1				
Iritis	6/12	6/12	..	..	..	No. 41.
Purulent iritis, &c.	P.L.	P.L.				
None	6/9 J. 1	6/9 J. 1.				
Purulent iritis	Hand-movement	P.L.	..	..	..	No. 167.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
17	590	1	69	F.	L.	Good	Diabetes ...	No iridectomy ..	None
18	610	2	70	M.	L.	"	Good	After preliminary iridectomy	"
19	655	1	43	M.	L.	"	Diabetes ...	No iridectomy ..	"
20	682	1	75	F.	L.	"	None	With iridectomy	"
21	706	1	76	F.	L.	"	"	No iridectomy ..	"
22	721	1	65	M.	L.	Projection bad	"	With iridectomy	"
23	735	1	64	F.	L.	" ..	Influenza ...	No iridectomy ..	"
24	736	1	72	F.	R.	Good	Good	" " "	"
25	767	1	54	F.	L.	"	"	" " "	"
26	809	1	75	M.	L.	"	"	" " "	"
27	821	1	61	M.	R.	"	"	Usual operation. No iridectomy	"
28	"	2	"	"	L.	"	"	" " "	"
29	890	1	67	F.	R.	"	"	" " "	"
30	891	1	61	F.	R.	"	" ..	With iridectomy	"
31	924	1	47	M.	L.	"	"	No iridectomy ..	"
32	925	1	61	M.	L.	"	"	" " "	"
33	951	2	83	M.	L.	"	"	With iridectomy	"
34	972	1	57	M.	L.	"	Ataxic	No iridectomy ..	"
35	973	2	72	M.	L.	"	Good	" " "	"
36	1003	1	70	F.	L.	"	"	" " "	"
37	1021	1	60	F.	L.	"	Diabetes. Gout	With iridectomy	"
38	1027	1	65	M.	R.	"	Deaf	" " "	Soft matter left
39	1042	1	59	F.	R.	"	Good	No iridectomy ..	Good
40	1052	1	53	F.	R.	"	"	" " "	"
41	1080	1	76	F.	R.	"	"	" " "	"
42	1202	1	..	M.	R.	"	"	" " "	"
43	1242	2	75	F.	R.	"	"	With iridectomy	"
44	1300	1	61	M.	R.	"	"	After preliminary iridectomy	"
45	1391	1	73	M.	R.	"	"	No iridectomy ..	"
46	1437	1	66	F.	R.	"	"	" " "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/60					
"	6/60	6/18 J. 8				
Prolapse of iris	6/18	..	Iridectomy for prolapse	..	6/9 J. 4	
None	6/60	6/12				
"	3/60	6/24	Needling	..	6/12 J. 2	
"	P.L.	..	..	..	..	Lens matter and blood still present.
Prolapse of iris	6/6 J. 1	..	Iridectomy for prolapse			
None	6/18	6/6				
Iritis	2/60	1/60	Needling	..	6/6 J. 1	
Prolapse of iris.	..	..	Excision	..	..	Primary suppuration.
Suppuration						
None	6/60	6/6 J. 1				
"	6/9	6/6 J. 1				
"	6/18	6/18 J. 4	Needling	..	6/9 J. 1	
Prolapse of iris.	6/9	..	Iridectomy for prolapse			
Some iritis						
None	6/6 J. 1					
"	6/18	6/24	Needling	..	6/6 J. 1	
"	4/60	6/36	"	..	6/24	
Iris caught in wound	6/12	6/6 J. 1				
None	6/18	6/12	..	..	..	No. 186.
"	..	3/60	Needling	..	6/6 J. 1	
"	6/60	6/9 J. 1				
K. striata.	6/60					
None	6/9					
Prolapse of iris	6/18	6/18	Iridectomy for prolapse.	..	6/6	
			Needling			
Iritis.	1/60					
Prolapse of iris	6/18	..	Iris replaced	Prolapse of iris. Vitreous lost		
			Iridectomy for prolapse			
None	6/18	..	..	..	..	No. 682.
"	6/18	6/18	Needling	..	6/6 J. 1	
Iritis	6/9					
"	6/9 J. 1					

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
47	1514	1	61	F.	R.	Good	Good	No iridectomy ..	Good
48	1530	1	75	F.	R.	"	"	" " "	"
49	1556	1	72	F.	R.	"	"	" " "	"
50	1622	2	76	M.	R.	Glaucomatous	"	With iridectomy	"
51	1688	2	53	F.	L.	Good	"	" " "	"
52	1709	1	59	F.	R.	"	"	No iridectomy ..	"
53	1751	1	70	M.	L.	"	"	With iridectomy	"

1	108	1	54	F.	R.	Good	Good	Conjunctival flap. No iridectomy. Capsule opened with cystotome	None
2	162	1	55	F.	R.	"	"	After preliminary iridectomy	"
3	391	1	75	F.	R.	"	"	With iridectomy	"
4	456	2	45	M.	R.	"	Diabetes ..	" " "	" ..
5	487	1	56	F.	R.	"	Good	No iridectomy ..	"
6	537	1	62	M.	L.	Nystagmus .	"	After preliminary iridectomy	"
7	541	1	67	M.	R.	Good	"	With iridectomy	Iris buttonholed
8	570	1	65	M.	L.	"	"	No iridectomy...	None
9	574	2	66	F.	R.	"	"	With iridectomy	"
10	597	1	72	F.	R.	"	"	No iridectomy...	"
11	635	2	59	F.	R.	"	"	" " "	"
12	655	2	65	F.	R.	"	"	" " "	"
13	656	1	69	F.	L.	"	"	" " "	"
14	713	1	73	F.	R.	"	"	With iridectomy	"
15	714	1	70	F.	R.	"	"	No iridectomy ..	"
16	902	1	57	M.	R.	"	"	With iridectomy	Iris buttonholed
17	904	2	76	F.	R.	"	"	No iridectomy ..	None
18	945	1	72	F.	R.	"	Diabetes....	" " "	"
19	955	1	68	M.	L.	Epiphora...	Good	" " "	"
20	979	1	70	F.	R.	Good	"	With iridectomy	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
P.S.	6/9 J. 1	4/60 J. 16	Needling	..	6/18 J. 2	
Iritis	4/60 J. 16	3/60	Needling	..	6/9 J. 4	
Prolapse of iris	6/36	..	Iridectomy for prolapse	..	6/18	
Iritis	Hand-movement	..	Iridotomy	Eye shrinking	P.L.	
None	6/24	..	Needling	..	6/6 J. 1	No. 1052.
"	6/24	6/6 J. 1				
"	..	1/60	Needling	..	6/18	

None	2/60	..	Needling	..	6/12 J. 1	
"	6/12					
"	6/9 J. 6	6/6 J. 1				
Iritis and P. S.	6/9	..	..	..	..	No. 655 (year 1891).
None	6/12					
"	Hand-movement	2/60				
"	6/18 J. 6	6/6 J. 1				
"	..	6/6 J. 1				
"	6/36	6/18	Needling	..	6/6 J. 1	No. 452 (year 1891).
"	6/6	6/6 J. 1				
"	6/12	..	..	..	..	No. 556 (year 1891).
Iritis K. P.	..	..	G. cautery	Hyphæma	..	Senile dementia.
Hypopyon						
Prolapse of iris, Iritis	1/60	..	1. Iridec-tomy for prolapse	Glaucoma	1/60	
			2. Scleral puncture			
			3. Iridec-tomy			
			4. Needling			
None	6/24	6/18 J. 1				
"	6/24	6/12	Capsule extraction	..	6/9 J. 4	
"	6/18	6/6 J. 1				
Iris caught in wound	6/24	6/9	..	..	..	No. 706 (year 1891).
None	6/60					
"	6/36	6/6 J. 1				
"	6/36	6/9 J. 6				

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
21	980	2	72	F.	L.	Epiphora. Pterygium	Good	With iridectomy	None
22	1041	1	62	F.	L.	Good	"	Usual operation. No iridectomy	"
23	1059	2	69	M.	R.	"	"	With iridectomy	"
24	1079	1	73	M.	L.	"	"	No iridectomy...	"
25	1152	2	61	M.	L.	"	"	After preliminary iridectomy	"
26	1207	1	80	M.	L.	"	"	No iridectomy. Hook extrac- tion	Vitreous lost.
27	1483	2	71	F.	R.	"	"	No iridectomy...	None
28	1490	2	74	M.	R.	"	"	" " "	"
29	1536	2	71	M.	R.	"	"	" " "	"
30	1561	1	70	M.	R.	"	"	" " "	Vitreous lost. .
31	1569	1	66	M.	L.	"	"	With iridectomy	None
32	1611	1	56	F.	R.	"	"	" " "	"
33	1659	2	69	M.	L.	"	"	No iridectomy...	"
34	1747	1	65	M.	L.	"	"	" " "	"
35	1785	1	49	F.	R.	"	"	With iridectomy	"
36	1815	1	62	M.	L.	"	Albumin- uria. Rheumatic	No iridectomy...	" ..

1	90	1	51	F.	R.	Good	Rheumatic .	Conjunctival flap. No iridectomy. Capsule opened with cystotome	None
2	202	1	62	F.	R.	Vitreous opacities	Good	Usual operation .	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/36	6/9 J. 1	..	..	..	No. 597 (year 1892).
Severe iritis. Prolapse of iris. Blocked pupil	Hand-movement	..	1. G. cautery 2. Extrac- tion of capsule 3. Iridec- tomy for prolapse	..	Hand-movement	
..	6/60	6/12 J. 6				
Prolapse of iris	6/12 J. 4	..	Iridectomy for pro- lapse	..	6/9 J. 1	
None	6/12	6/9 J. 1				
K. striata T. —	4/60	6/24 J. 12	..	..	..	Numerous vitreous opacities.
None	6/9	6/9 J. 1	..	..	..	No. 1079 (year 1892).
K. striata	6/24	..	Iridectomy for pro- lapse	Large amount of vitreous lost. Iritis.	..	
Prolapse of iris. Hypopyon	No P. L.	"	"	"	"	
Prolapse of iris. Suppuration	..	..	1. G. cautery 2. Excision			
None	6/36 J. 10	6/18 J. 2				
Prolapse of iris	6/36	..	G. cautery to pro- lapse	..	6/9 J. 1	
None	5/60 J. 16					
"	6/18					
"	Fingers at 6"	6/36 J. 8	Needling	..	6/6 J. 1	
Prolapse of iris	..	..	Iridectomy for pro- lapse	..	6/6 J. 1	

None	6/36 J. 19	6/12 J. 6				
„	6/12 J. 4	6/6 J. 1				

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
3	203	1	53	F.	R.	Good	Good	Usual operation.	None
4	284	1	60	F.	L.	"	"	" " "	"
5	324	2	68	F.	L.	Ch. conjunctivitis	"	After preliminary iridectomy	"
6	507	2	57	F.	L.	Good	"	Iridectomy after extraction	"
7	591	1	71	M.	L.	"	"	No iridectomy ..	"
8	618	1	72	M.	L.	"	Diabetic....	" " "	"
9	634	1	32	F.	R.	"	Good	" " "	"
10	650	1	61	F.	L.	"	"	With iridectomy	"
11	787	1	63	M.	L.	"	"	" " "	Soft matter left
12	786	1	60	M.	L.	"	"	No iridectomy ..	None
13	826	2	39	F.	R.	"	Albuminuria diabetes	With iridectomy	"
14	870	1	70	M.	L.	"	None	" " "	"
15	959	1	68	F.	R.	"	"	No iridectomy ..	"
16	1062	1	58	M.	R.	"	"	After preliminary iridectomy. Hook extraction	Vitreous lost...
17	1144	1	64	F.	R.	"	"	With iridectomy	None
18	1157	2	63	M.	R.	"	"	" " "	"
19	1171	1	75	M.	R.	"	"	" " "	"
20	1684	1	65	F.	L.	Glaucoma ..	"	Previous iridectomy	"
21	1685	1	66	F.	R.	Good	"	With iridectomy	"
22	1728	1	65	F.	R.	Lac. obst. ..	Rheumatic fever	" " "	"
23	1741	2	63	F.	L.	Good	Good	" " "	"
24	1744	2	70	M.	R.	Ch. conjunctivitis	"	After preliminary iridectomy	"
25	1766	2	75	M.	R.	Ch. conjunctivitis	Gouty, unsteady	Usual operation. With iridectomy	"
26	1838	1	60	M.	L.	Good	Good	With iridectomy.	"
27	1946	1	60	F.	L.	Ch. conjunctivitis	"	" " "	"
28	1960	1	57	F.	L.	Good	"	Iridectomy, after extraction	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Prolapse of iris. Iritis	6/60 J. 16	6/12 J. 1	Iridectomy for pro- lapse	..	..	Slightly cystoid scar at inner angle of coloboma.
Pupil drawn up	6/24 J. 8	6/6 J. 1				
None	5/60 J. 14	..	..	..	..	No. 381 (year 1890).
Iritis	6/12 J. 4	..	..	..	..	No. 487 (year 1892).
Iritis	6/12 J. 4	6/6 J. 1	Iridectomy	..	6/36 J. 15	
Purulent iritis.	P.L.	Hand- movement				
Pupil drawn up	6/24 J. 4	6/12 J. 1				
None	6/12 J. 4	6/9 J. 1				
" ..	2/60 J. 20	3/60	Needling.	..	6/12	
" ..	6/36 J. 12	6/24	Needling.	..	6/6 J. 1	
" ..	6/24 J. 10	6/24 J. 12	..	..	..	No. 985 (year 1890).
" ..	6/24 J. 12	6/6 J. 1				
" ..	6/9 J. 1	6/6 J. 1				
" ..	6/24	6/24	Needling.	..	6/9 J. 1	
" ..	6/60 J. 12	6/12 J. 6				
" ..	6/12 J. 2	..	..	..	..	No. 787 (year 1893).
" ..	Fingers at 18"	6/60 J. 15	..	..	..	Vitreous opacities and choroiditis.
" ..	5/60 J. 16	6/12 J. 6				
" ..	6/36 J. 12	6/6 J. 1				
K. striata	4/60 J. 15	6/6 J. 1				
..	6/24 J. 8	6/24 J. 8	..	..	..	Vitreous opacities. R. eye, No. 1514 (year 1891).
None	6/36 J. 14	6/12 J. 2				
" ..	6/36 J. 15	6/18 J. 12	..	..	..	No. 273 (year 1891).
Prolapse of iris	6/24 J. 15	6/18 J. 14	1. Iridecto- my for prolapse. 2. Needl- ing	..	6/12 J. 6	
None	6/12 J. 4	6/12 J. 1				
Prolapse of angle of co- loboma	6/12 J. 6	..	Iridectomy for pro- lapse			

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
1	520	1	65	F.	R.	Good	Diabetes....	Section at corneo-scleral junction. After preliminary iridectomy capsulotomy with cystotome	None
2	593	1	57	F.	L.	"	Good	Peripheral capsulotomy	"
3	976	1	68	M.	L.	"	"	Usual operation	Iris cut with knife
4	1087	2	57	F.	R.	"	"	Scoop extraction	Nearly $\frac{1}{2}$ vitreous lost
5	1133	1	71	M.	L.	"	Not noted ..	Usual operation	None
6	1258	1	54	F.	R.	Projection doubtful	Good	" "	"
7	1323	1	44	M.	L.	Good	"	" "	"
8	1367	1	67	F.	R.	"	"	" "	"
9	1463	1	42	F.	R.	"	"	" "	"
10	1471	2	64	M.	R.	"	"	" "	"
11	1591	1	65	M.	R.	Disseminated choroiditis	"	" "	"
12	1606	1	68	M.	L.	Lens dislocated. Vitreous opacities	"	" "	"
13	1694	2	62	M.	R.	Good	"	" "	"
14	1909	1	68	M.	R.	"	"	No iridectomy ..	"
15	2155	2	55	F.	L.	"	"	Usual operation	Lens movable and extruded by patient squeezing
16	2160	1	67	F.	R.	"	Neurotic ...	" "	Soft matter remained
17	2225	1	47	M.	L.	"	Good	" "	None
18	1486	1	66	F.	L.	"	"	" "	"
19	2264	1	59	F.	L.	"	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Iritis	J. 10	6/60 J. 12	Needling	None	6/12 J. 4	
None	J. 14					
Slight iritis...	6/60					
Much membrane in pupil	Fingers at 18"	6/24 J. 10	..	..	..	L. did well. R., vitreous opacities and capsule.
Suppuration ..	..	..	Excision			
None	6/60 J. 10	6/9 J. 1	..	..	..	See No. 2155.
Iritis and P. S.	4/60	6/12 J. 4				
None	6/60					
"	6/36 J. 12	6/24 J. 1				
"	6/60 J. 18	6/18 J. 1	..	..	..	L. did well.
"	1/60 J. 20					
"	J. 20	6/36	..	..	..	Anæsthetic chloroform.
"	J. 12	6/12 J. 1	..	..	..	L. lost from glaucoma after couching by "the Indian oculists."
Post. synechiæ	6/36 J. 12	6/12 J. 1				
None	6/60 J. 15	6/9 J. 1	..	..	..	1st did well. See No. 1258.
Slight iritis.	6/60 J. 15	1/60	Needling	None	6/12 J. 1	
Iritis and P. S.	6/24 J. 1					
None	6/60 J. 16	6/24 J. 12	Needling	"	6/12 J. 1	
"	6/18 J. 12					

No. of case.	Hospital Register.	Eye.	Age	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
1	39	1	60	F.	R.	Good	Good	Corneo-scleral section after preliminary iridectomy. Capsule opened with cystotome	Some soft matter left
2	222	2	55	M.	L.	"	Unsteady...	Usual operation ..	None
3	245	2	67	F.	R.	"	Good	"	"
4	268	1	61	F.	R.	"	"	No iridectomy	Soft matter left
5	269	2	53	M.	L.	"	"	After preliminary iridectomy	None
6	309	1	70	F.	L.	"	"	" "	"
7	426	1	80	F.	R.	"	"	" "	"
8	447	1	69	M.	R.	Projection not good	Unsteady	No iridectomy ..	Very bad patient
9	465	1	77	M.	R.	Good	Good	Usual operation ..	None
10	535	1	60	F.	L.	"	Unsteady...	" "	"
11	747	1	63	F.	L.	"	Good	No iridectomy ..	"
12	791	1	64	F.	L.	"	Rheumatic..	Usual operation	"
13	1005	2	67	M.	L.	"	Good	" "	"
14	1063	2	56	F.	L.	"	"	" "	"
15	1318	2	69	M.	R.	"	"	No iridectomy ..	"
16	1319	1	27	M.	L.	Post. synechiæ	"	Hook and scop extraction	"
17	1334	1	64	F.	R.	Good	"	Usual operation ..	"
18	1366	1	47	F.	R.	"	"	Attempt to remove opaque capsule with forceps	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Purulent iritis 30 days after extraction	Hand	movement	Paracentesis			
None	6/36 J. 12	6/9 J. 1	..	..	..	R. did well.
"	6/18 J. 4	6/18	Needling	None	6/6 J. 1	L. did well.
Severe iritis...	6/60 J. 14	6/9	..	..	..	R. did well.
None	6/24 J. 10	6/6 J. 1	..	..	..	
Serous cyclitis and K. punctata	Hand-movement	Hand-movement	..	..	..	Two months later sympathetic ophth. in the R.
None	1/60	..	..	..	..	L. lost after cataract extraction elsewhere. No note as to why vision was so bad in R.
"	6/60					
"	6/6 J. 1	6/36	Needling 2	..	6/6 J. 1	L. suppurated and was excised after cataract extraction
"	6/6 J. 1	6/6 J. 1				
Prolapse of iris	6/12	..	Iridectomy for prolapse			
Iritis	6/36 J. 12	6/18 J. 6	..	..		
None	6/12 J. 12	6/18 J. 12	Needling	..	6/9 J. 1	R. "did well." No note of V. (No. 1773, year 1889).
"	6/24 J. 12	6/24 J. 8	Needling	None	6/9 J. 1	R. did well (No. 1635, year 1889).
Post. synechiæ	6/60	6/24	Needling	"	6/24	L. did fairly well. (No. 1606, year 1889.) R. has vitreous opacities.
" "	5/60 J. 14	Fingers at 6'	Needling	"	6/60 J. 14	R. lost from inflammation in childhood. Extraction done under ether and chloroform.
"	6/12	6/6 J. 1				
K. striata....	6/36	6/9 J. 1				

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
19	1377	1	73	M.	L.	Good	Good	Usual operation.	None
20	1406	1	56	M.	L.	"	"	" "	Difficulty in removing lens. A bead of vitreous lost.
21	1432	1	67	M.	L.	Ch. conjunctivitis, mucocele	"	" "	"
22	1526	1	82	F.	R.	Good	"	" "	Some soft matter left
23	1547	2	65	F.	R.	"	"	" "	None
24	1628	2	30	M.	L.	"	"	No iridectomy.	"
25	1724	2	50	F.	L.	"	"	Usual operation.	"
26	1765	1	51	F.	R.	"	"	" "	"
27	1800	1	66	M.	R.	Glaucomatous; field contracted	"	Scoop extraction	"
28	1879	1	62	M.	L.	Good	"	Usual operation.	Violent cough during operation. A little vitreous lost
29	1880	1	67	M.	R.	"	"	Iris transfixed by knife. Preliminary iridectomy had not been done	None
30	1882	1	76	M.	L.	"	Cough	Usual operation.	"
31	1925	1	78	F.	R.	"	Good	" "	Large lens removed with hook with difficulty
32	1335	1	65	M.	R.	"	"	" "	None

1	15	2	66	M.	R.	Good	Good	Section at corneo scleral junction. No conjunctival flap. Prelim. iridectomy. Capsule opened with cystotome	None
2	22	1	72	F.	R.	Hypermature cataract	"	Usual operation	Iris transfixed.
3	269	2	60	F.	L.	Incomplete cataract	Very unsteady	" "	Spasmodic entropion

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
K. striata..... None	6/60 Counts fingers	6/60	Needling	None	6/36	Vitreous opacities.
..	..	..	..	..	..	No further note.
Iritis	..	6/9 J. 1				
None	..	6/60	Needling	None	6/6 J. 1	L. did well.
„	6/18	..	..	..	..	R. needled did well.
„	4/60	6/60	Needling	None	6/9 J. 1	R. operated upon elsewhere. Did not do well.
„	4/60	4/60 J. 14	Needling	„	6/6 J. 1	
Plastic iritis ..	1/60	6/18	..	..	..	Extracted under ether and chloroform.
Slight iritis...						
Iritis	4/60	6/60	Needling	..	6/9	Later result V. = hand-movement.
						Vascular keratitis and vitreous opacities.
None	..	6/60	Needling	None	6/12 J. 4	
„	6/36 J. 12	6/60	Needling	„	6/9 J. 1	
„	6/24	6/18	Needling	„	6/6 J. 1	
None	6/6 J. 1	6/60	Needling	None	6/6 J. 1	L. did well after extraction three years ago.
„	6/36	3/60 J. 15	Needling	..	6/9	Vitreous opacities.
Much iritis ..	6/36	6/60	Needling	Irido-cyclitis	1/60	R. lost after extraction elsewhere.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
4	270	1	66	F.	L.	Good.....	Good.....	Usual operation.	None.....
5	430	1	56	F.	L.	Old iritis ..	Unsteady ..	" "	"
6	453	1	69	F.	L.	Good.....	Good.....	" "	"
7	707	1	69	F.	L.	"	"	" "	"
8	746	1	75	F.	R.	"	"	" "	Soft matter left
9	647	1	65	F.	R.	Hypermature cataract	"	" "	" "
10	822	2	64	F.	L.	Good.....	"	" "	None.....
11	843	2	73	F.	L.	"	"	" "	"
12	868	1	78	M.	R.	"	"	" "	Soft matter left
13	922	1	64	F.	R.	"	"	" "	" "
14	989	1	61	M.	L.	"	"	" "	Flaccid cornea .
15	1079	1	52	F.	L.	Hypermature cataract	"	No iridectomy. Hook extraction	None
16	1307	1	66	M.	L.	" "	"	Usual operation.	"
17	1516	1	66	F.	R.	Good.....	"	Iridectomy at time of extraction	Iris fell before knife
18	1583	1	68	F.	L.	Incomplete cataract	"	Usual operation.	Soft matter left
19	1626	2	67	F.	L.	" "	"	" "	" "
20	1705 ^a	1	68	M.	R.	" "	"	" "	Small section and large lens
21	1707	2	47	M.	R.	Good.....	"	" "	Soft matter left
22	1727	1	50	M.	L.	"	"	" "	" "
23	1851	2	76	F.	L.	"	"	" "	" "
24	1863	2	61	M.	L.	"	Unsteady ..	" "	Vitreous lost ..
25	747	1	65	F.	R.	Brown cataract	Good.....	" "	None

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Iritis and P.S. Iritis	6/60 3/60	3/60 6/24	Needling Capsule extraction	None ,,	6/12 J. 6 6/6 J. 1	
Ectropion K.S.	6/18 J. 1					
None	1/60					
„	4/60	6/36	„ „	..	6/6 J. 1	
„	6/9 J. 1	..	..	..	..	R. did well after extraction three years ago.
„	6/60	..	..	..	..	R. No. 22.
„	6/60	2/60 J. 19	Needling	..	6/18 J. 12	
Post. syn.	2/60	6/60	Needling ?	..	6/60	Vitreous opacities.
None	6/36	6/60	Needling	..	6/24	Old disseminated choroiditis.
„	6/36					
Spasmodic en- tropion	6/36	6/36	Needling	None	6/6 J. 1	
None	Hand- movement	3/60	Needling	..	6/18	
Suppurative iritis	..	3/60	Needling	Severe iritis	2/60	R., No. 520 (year 1889).
K. striata....	1/60	P. L.	..	..	..	Large leucoma ad- herens; ? cause.
Secondary pro- lapse	6/24	..	Iridectomy for pro- lapse	..	..	L. did well after extraction.
None	6/60	6/36	Needling	..	6/9 J. 1	
Post. syn.	6/9	6/18 J. 2	Needling	..	6/6 J. 1	R. did well after extraction six years ago.
Iritis	2/60	6/60	Needling	..	6/6 J. 1	R. did well after extraction, No. 1335 (year 1890).
None	4/60	6/60	Needling	..	6/6 J. 1	L. much capsule left.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
1	66	1	69	M.	L.	Good	Good	Section at corneo-scleral junction. No conjunctival flap. After preliminary iridectomy. Capsule opened with cystotome	None
2	101	1	71	M.	L.	"	"	Usual operation .	Movable lens ..
3	111	1	67	F.	R.	"	"	" "	Soft matter left
4	195	1	50	F.	L.	"	"	" "	None
5	377	2	69	M.	L.	"	"	" "	Very sticky soft matter
6	573	1	63	F.	L.	"	"	" "	" "
7	692	1	39	F.	R.	"	Syphilitic...	No iridectomy ..	" "
8	863	1	50	M.	R.	"	Good	Usual operation .	Prolapse of vitreous
9	954	1	67	F.	R.	Myopic	Diabetic....	" "	Soft lens matter left
10	743	2	68	F.	R.	Good	Good	" "	None
11	757	2	66	F.	L.	"	"	" "	"
12	762	1	43	M.	L.	"	"	" "	Soft matter left
13	783	2	63	F.	L.	"	"	No iridectomy ..	None
14	1080	1	63	M.	R.	"	"	Usual operation .	Vitreous presented
15	1299	1	52	F.	L.	"	"	" "	Cornea flaccid. .
16	1300	1	63	F.	R.	"	"	" "	" "
17	1349	1	80	F.	R.	"	"	Iridectomy done at time of extraction	None
18	126	1	60	M.	L.	"	"	Usual operation .	"
19	1354	2	71	M.	L.	Shrunken lens	"	Capsule removed with forceps and lens with scoop after preliminary iridectomy	Vitreous lost...
20	1440	2	68	F.	L.	Good	Good	Usual operation, but small conjunctival flap.	None

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/24	6/9 J. 4	..	..	..	Vitreous opacities.
„	6/24	6/9 J. 1	..	..	..	„ „
„	6/24	6/24	Needling	..	6/18	„ „
Iritis and P.S.	6/9	6/24	Needling	..	6/9 J. 1	R., No. 1705(a)
None	6/60	6/60	Needling	..	6/9 J. 1	(year 1891).
Slight iritis...	6/18	6/18	Needling	..	6/6 J. 1	
Iris adherent to scar	6/12					
Iritis and P.S.	2/60	6/12 J. 1				
None	1/60	6/24				
Iritis	6/24	6/12 J. 6	Needling	..	6/36	L., No. 270 (year 1891). R., vitreous opacities.
None	6/60	3/60 J. 15	..	..	..	R., No. 747 (year 1891). Capsule. Much capsule.
Prolapse of capsule. Iritis	3/60	..	Capsule prolapsed, removed	Vitreous lost	..	
Iritis	6/12	..	..	..	..	R., No. 268 (year 1890).
„	4/60	6/18 J. 2				
„	6/26 J. 10	6/18 J. 4				
K. striata....	6/60 J. 16	6/12 J. 4				
None	6/60 J. 16					
„	6/36	4/60	Needling	..	6/12	
„	6/60 J. 12	3/60 J. 20	..	..	..	R., No. 1880 (year 1890). Vascular keratitis and vitreous opacities.
„	1/60	1/60	Needling	..	3/18 J. 2	R., No. 111.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
21	1550	1	39	M.	R.	Good	Good	Lens extracted without iridectomy, but iris was so bruised it had to be done	Vitreous presented
22	1510	1	56	F.	L.	"	"	Usual operation.	None
23	1663	1	70	F.	L.	Post. syn. after preliminary iridectomy followed by iritis	"	" "	Soft matter left
24	1741	2	65	F.	L.	Good	"	" "	None
25	1742	1	66	F.	L.	"	"	" "	Small section lens difficult to deliver
26	1764	1	67	M.	L.	"	"	" "	Vitreous presented
27	1830	1	67	F.	R.	"	"	" "	None
28	1946	1	77	F.	R.	"	"	" "	"

1	46	1	71	M.	R.	Old iritis and post synechiæ	Good	Section at corneoscleral margin after preliminary iridectomy. Capsule opened with cystotome	Difficult to deliver. Soft matter left
2	49	1	64	F.	R.	Good	"	Usual operation.	Soft matter left
3	103	1	63	F.	R.	"	"	" "	" "
4	151	2	65	M.	L.	"	"	" "	" "
5	258	1	74	F.	R.	"	Cough.....	" "	Vitreous lost...
6	428	1	67	M.	L.	"	Good	" "	None
7	593	1	66	M.	L.	"	Unsteady ..	" "	Soft matter left
8	790	1	68	F.	R.	"	Good	" "	None
9	891	1	75	M.	R.	"	"	" "	"
10	910	1	70	F.	R.	"	Asthmatic ..	" "	"
11	1039	1	59	F.	R.	"	Good	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/24	6/60 J. 15	Needling .	..	6/24 J. 6	
„	6/12	6/6 J. 1				
„	Fingers at 6"	6/24 J. 8				
„	3/36	6/60 J. 14	Capsule extraction	None	6/12 J. 1	R., No. 1516 (year 1891).
Atropine irritation	4/60					
None	6/60 J. 14	6/24 J. 12	Needling .	„	6/6 J. 1	
„	6/36	6/12 J. 6	Needling .	„	6/9 J. 4	
„	6/60 J. 10	6/24 J. 6	..	..	..	Vitreous opacities. Membrane.

Ectropion	Hand-movement	..	..	..	..	Lens matter present.
None	2/60 J. 19	6/12 J. 1				
K. striata	6/12 J. 2	6/9 J. 1				
Iritis	Hand-movement	..	Needling .	..	..	R. did well after extraction elsewhere. L., still a lot of lens matter.
None	3/60 J. 19	6/9 J. 1				
„	6/60 J. 15	6/18 J. 2				
„	4/60 J. 18	..				
„	6/18 J. 4	..				
„	6/36 J. 8	6/12 J. 6				
Atropine irrit. Slow bleeding and irido-cyclitis	..	..	..	..	..	Sight destroyed.
None	6/36 J. 15	6/12 J. 1				

No. of case.	Hospital Register.	Eye.	Age	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
12	1362	1	74	F.	R.	Good	Feeble	Usual operation .	None
13	1387	2	59	F.	R.	"	Good	" "	Soft matter left
14	1402	2	67	M.	R.	"	"	" "	" "
15	1457	1	69	F.	R.	Myopic	"	" "	None
16	1665	2	55	F.	R.	Good	"	" "	Soft matter left
17	1803	2	78	F.	R.	"	"	" "	None
18	1882	1	81	M.	R.	"	Cough	" "	Cornea very flaccid
19	1883	1	78	M.	R.	"	Feeble	" "	None

1	92	1	58	F.	R.	Good	Good	Small conjunctival flap. Iridectomy. Capsulotomy done with cystotome	None
2	288	2	63	F.	L.	"	"	Peripheral capsulotomy	"
3	320	1	60	F.	R.	"	"	After preliminary iridectomy	Some soft matter left
4	531	1	69	M.	R.	"	Cough	" "	" "
5	558	1	58	F.	L.	"	Good	Usual operation .	None
6	599	1	—	F.	R.	"	"	" "	Soft matter left
7	681	1	64	F.	L.	"	"	" "	Soft matter scraped out
8	724	2	58	F.	L.	"	"	" "	None
9	725	2	74	F.	L.	"	"	Peripheral capsulotomy	"
10	807	1	64	F.	R.	"	Cough	" "	"
11	809	1	70	M.	L.	"	Good	" "	"
12	951	1	64	M.	L.	"	"	" "	"
13	1030	1	68	F.	L.	"	Ch. bronchitis	" "	"
14	1763	1	60	M.	R.	"	Good	" "	"
15	1785	1	70	M.	L.	"	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Flap became folded on itself and wound gaped widely.	1/60 J. 16	..	..	..	..	L. excised as a shrunken globe after a lime burn.
None	6/60 J. 8	6/18 J. 6	Needling .	..	6/6 J. 1	L. eye, No. 438 (year 1891).
„	2/60	6/24 J. 6	..	..	..	L. eye, No. 428. Anæsthetic ether.
„	6/60 J. 18	6/12 J. 1	..	..	..	Vitreous opacities.
„ ..	6/60 J. 19	6/12 J. 1	..	..	..	L. eye, No. 1510 (year 1892).
K. striata	6/36 J. 12	6/18 J. 6	..	..	..	L. did well after extraction nine years ago.
Severe bronchitis	6/60 J. 15	6/60 J. 15	..	..	..	Vitreous opacities. Central choroiditis.
None	6/36 J. 10	6/12 J. 2				

None	6/36 J. 10	6/18 J. 1				
„	6/12 J. 1	5/60	Needling	None	6/6 J. 1	R. did well.
Iritis and hyphæma	1/60	6/60 J. 16	Needling	Glaucoma	6/18 J. 8	
Iritis ..	4/60 J. 16	6/18 J. 6				
None	6/60 J. 14	6/9				
„	..	Fingers at 6"	Needling	„	..	Still soft matter present.
Iritis	..	..	Paracentesis			
None	6/60	6/12 J. 1	..	..	..	R. did well, No. 92.
Keratitis striata	..	6/18				
Iritis	2/60 J. 20	2/60 J. 10	Needling	None	6/60 J. 12	
None	2/60 J. 19	6/6 J. 1				
„	3/60 J. 19	6/36	Needling	„	6/9 J. 1	
„	J. 18	6/24 J. 4	Needling	„	6/9	
„	6/60 J. 16	6/60 J. 15	Needling	„	6/18 J. 4	
„	6/60 J. 12	6/18 J. 4	Needling	„	6/24	Vitreous opacities.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
16	1950	1	70	M.	L.	Incomplete cataract	Good	Peripheral capsulotomy	None
17	2088	1	17	F.	L.	Myopia; all the family have cataract	"	Capsulotomy done across lens with cystotome	"
18	2104	1	65	F.	R.	Good	"	" "	"
19	2152	2	66	F.	L.	"	"	" "	"
20	2228	1	73	M.	R.	Dark coloured cataract	"	" "	"
21	847	1	60	F.	R.	Good	"	" "	"

1	34	1	48	F.	L.	Good	Good	Section at corneo-scleral junction. Iridectomy. Capsule opened with cystotome.	None
2	97	2	70	M.	R.	"	"	Usual operation.	"
3	384	1	70	F.	R.	"	Unsteady ..	Peripheral section of capsule.	Vitreous lost ..
4	525	2	48	F.	R.	"	Good	Usual operation.	None
5	552	1	66	F.	L.	"	"	Peripheral section of capsule.	"
6	628	1	64	F.	L.	"	"	Usual operation.	"
7	651	2	35	F.	R.	Fluid cortex	"	" "	"
8	671	2	59	F.	L.	Good	"	" "	"
9	734	1	70	M.	R.	Myopic ...	"	" "	"
10	818	1	70	M.	R.	Incomplete cataract	"	" "	"
11	860	1	55	F.	L.	Good	"	" "	"
12	875	2	69	M.	R.	Fine injection and results of sympathetic iritis. Cornua hazy.	"	Cataract removed in its capsule	" ..

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	..	2/60 J. 14	Needling	None	6/24 J. 8	
Mania	3/60 J. 20	..	..	..	..	Followed by acute mania for one day.
None	6/36 J. 10	6/12 J. 1				
"	3/60 J. 19	6/36 J. 16	..	..	..	R. did well.
"	6/36 J. 12	6/36 J. 16				
Glaucoma	6/24 J. 14	6/12	Iridectomy for glaucoma	..	6/60	Fundus changes. Syphilitic.

None	6/60	6/24	Needling	None	6/6 J. 1	
"	6/60	..	..	..	..	L. did well.
"	5/60	Hand-movement	1. Iridotomy 2. Needling	Both followed by hypopyon	..	
None	6/24	6/6 J. 1	..	..	..	L. lost vitreous and V. failed from vitreous opacities. Later T. + 2. Disc cupped.
Iritis	5/60	3/60	1. Needling 2. Sclerotomy	Glaucoma and iritis	6/60	
None	6/12	6/6 J. 1	..	..	..	L. shrunken after cataract extraction elsewhere.
"	6/36	6/12 J. 1	..	..	..	R. did well.
"	6/60	4/60	Needling	None	6/9 J. 1	
"	6/9	6/60	Needling	"	6/6 J. 1	
Iritis	Hand-movement	Hand-movement	Needling	"	3/60 J. 14	L. removed as a blind and shrunken globe. Much capsule and vitreous opacities.
None	6/9 J. 1	6/6 J. 1	..	..	..	L. extraction, 1888. followed by sympathetic in R. Both eyes quieted R. = 3/60 J. 12.
N.	further	notes	..	..	..	

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
13	1113	2	69	F.	R.	Good	Good	Usual operation .	None
14	1133	2	71	M.	R.	"	"	" "	"
15	1141	2	69	F.	R.	"	"	" "	"
16	1289	2	70	M.	L.	"	"	" "	"
17	1328	1	71	M.	R.	"	"	" "	Difficulty in delivering. Very large lens
18	1336	1	67	M.	R.	"	"	Lens removed without iridectomy. Iridectomy done, as iris would not go back.	None
19	1340	1	56	F.	L.	Projection not good. Ch. ciliary blepharitis.	Good	Usual operation .	Utter want of control on part of patient.
20	1438	1	72	F.	R.	Good	"	" "	None
21	1460	1	67	M.	R.	"	"	" "	"
22	1535	1	67	M.	R.	"	"	" "	"
23	1570	1	74	F.	L.	"	Gouty	" "	"
24	1690	1	71	F.	R.	Myopia	Good	Peripheral section of capsule	"
25	1782	2	66	M.	R.	Good	"	Usual operation .	"
26	1784	1	60	M.	R.	"	Eczema of face	" "	"
27	1832	1	69	M.	R.	"	Good	" "	"

1	19	1	57	F.	R.	Good	Cough	Conjunctival flap. Iridectomy. Capsule opened with cystotome	None
2	44	1	55	F.	L.	Corneal nebulæ	Good	Usual operation .	"
3	70	2	60	M.	L.	Good	"	" "	"
4	87	1	64	F.	R.	"	"	" "	"
5	335	1	61	F.	L.	"	"	" "	"
6	346	1	38	F.	R.	Zonular cataract	"	" "	"
7	397	1	70	F.	R.	Good	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	..	6/24	Needling	None	6/18 J. 1	L. did well.
"	6/9 J. 1	6/6 J. 1	..	..	..	L. did well.
"	6/60	6/60	Needling	None	6/6 J. 1	L. did badly, No. 552.
"	6/18 J. 10	6/24	Needling	"	6/6 J. 1	R. did well. No. 734.
"	6/24	6/18	Needling	"	6/6 J. 1	
"	6/18	6/24 J. 12	Needling	..	6/18 J. 6	
None	6/18 J. 1					
"	6/36 J. 4	6/6 J. 1				
"	6/24 J. 10					
"	6/24	6/60 J. 12	Needling	None	6/18	Vitreous opacities.
"	6/18	..	..	..	..	Myopic fundus changes.
"	..	6/12 J. 1	..	..	..	L. did well (No. 951, year 1889).
"	6/60	6/9				
"	..	6/60	Needling	None	6/12 J. 1	
Slight iritis ..	1/60	6/24	Needling	..	6/18 J. 2	
..	..	..	..	..	..	R. operated on elsewhere. Shrunken globe.
None	..	..	..	..	..	R. No. 1784 (year 1890).
"	6/36	6/6 J. 1				
"	6/24					
"	6/60	6/18 J. 12	Needling	Hyalitis and shrinking of globe	4/60	
K. striata	16/12 J. 2	6/60 J. 14	..	..	..	Capsule.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
8	472	2	52	F.	R.	Good	Good	Usual operation .	None
9	522	1	50	F.	L.	"	"	" "	"
10	546	1	36	F.	R.	"	"	" "	"
11	621	2	74	M.	L.	"	"	" "	"
12	673	2	71	M.	L.	"	"	" "	"
13	689	1	65	F.	R.	Corneal ne- bula	"	" "	None
14	1085	1	72	M.	R.	Good	"	" "	"
15	1162	1	65	M.	L.	"	"	" "	"
16	1204	1	63	M	L.	"	"	No iridectomy ..	"
17	1275	1	65	M.	L.	"	"	Usual operation .	"
18	1224	1	65	M.	R.	"	"	" "	"
19	1339	1	68	M.	L.	"	"	" "	Vitreous lost ..
20	1356	1	48	F.	L.	Corneal ne- bulae	Congenital syphilis	" "	None
21	1372	1	60	M.	R.	Good	Good	" "	"
22	14 4	1	64	M.	R.	"	"	" "	"
23	1406	2	70	F.	L.	"	"	" "	"
24	1420	1	65	F.	R.	"	"	" "	"
25	1494	1	70	M	R.	"	"	" "	"
26	1519	2	65	M.	R.	"	"	" "	Lens matter left
27	1593	1	73	M.	L.	"	"	" "	None
28	1612	1	79	F.	R.	"	"	" "	"
29	1628	1	73	F.	R.	"	"	" "	"
30	1678	2	60	M.	L.	"	"	" "	"
31	1693	2	57	F.	R.	"	"	" "	"
32	1760	2	48	M.	L.	"	"	" "	"
33	1784	1	51	F.	R.	"	"	" "	"
34	1818	1	57	F.	R.	Myopic	Diabetic....	" "	"
35	1844	1	39	M.	L.	Good	Good	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/12	6/60 J. 14	Needling	Atropine irritation	6/12	L. extracted elsewhere. Did well.
"	6/18 J. 1	6/36	Needling	..	6/12	
"	6/9	6/24	Needling	..	6/6 J. 1	
" ..	..	..	..	..	..	R. extraction. No. 2228 (year 1889)
Ulceration of cornea	Fingers at 12"	1/60				
None	6/11	6/60 J. 19	Needling	..	6/12 J. 10	Vitreous opacities.
K. striata Pro lapse of iris	6/60	..	Iridecto- my for prolapse	Entangle- ment of inner lip of coloboma		
Prolapse of iris	6/36	..	Iridecto- my for prolapse.	..	6/6 J. 1	
None	6/60	6/18 J. 8	Capsule extraction	..	6/6 J. 1	
Cystoid scar. Iris entangled	6/36	6/18	Needling 2	..	6/9	
None	6/60	6/24				
"	6/24	6/18 J. 4	..	..	..	Vitreous opacities.
" ..	6/18	6/60	Needling	..		
"	6/24	6/24	Needling	..	6/18	Vitreous opacities.
"	6/18	..	..	..	..	R. extraction in 1887. Did well.
" ..						
"	6/18	6/9				
"	..	6/18	Capsule extraction	..	6/6 J. 1	L. No. 1275.
" ..	..	6/12	..	..	..	Tay's choroiditis.
"	3/60	..	..	..	..	Senile dementia.
"	3/60	..	Needling	..	..	Imbecile.
"	6/12	6/60	..	..	..	R. No. 1372. L. cap- sule.
"	6/36	6/12	..	..	..	L. extracted in 1887. Did well.
"	1/60	2/60	Needling	..	6/12 J. 1	R. extracted in 1875. Did well. L. cap- sule.
"	6/24	6/36	Needling	..	6/6	
Slight iritis ..	6/36	6/18 J. 2				
None	6/6	6/6				

No. of case.	Hospital Register.	Eye.	Age	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
1	33	2	70	M.	L.	Good	Good	Conjunctival flap. Iridectomy. Capsule opened with cystotome	None
2	132	1	39	F.	R.	Myopic	"	Usual operation .	"
3	146	2	65	M.	L.	Good	"	" "	"
4	197	1	69	M.	R.	"	"	" "	"
5	217	2	39	M.	R.	"	"	" "	"
6	252	1	67	F.	L.	"	"	" "	"
7	265	1	62	F.	R.	"	"	" "	"
8	343	1	33	M.	L.	"	"	Scoop extraction	Vitreous lost ..
9	387	2	62	F.	R.	Syphilitic iritis	"	Usual operation .	None
10	402	2	51	F.	L.	Good	"	" "	"
11	424	1	71	M.	L.	"	"	" "	"
12	502	2	69	M.	L.	" ..	" ..	" "	" ..
13	582	1	73	F.	L.	"	"	" "	"
14	603	1	69	F.	R.	"	"	" "	"
15	765	1	56	M.	L.	"	"	" "	" " "
16	885	1	62	M.	L.	Cornea hazy	"	Scoop extraction	Vitreous lost ..
17	1027	1	60	F.	R.	Shrunk lens	"	" "	"
18	1066	2	52	M.	R.	"	"	Usual operation	None
19	1087	1	40	F.	L.	Good	"	" "	"
20	1108	1	66	F.	L.	"	Cough	" "	" ..
21	1113	2	61	M.	R.	"	"	" "	"
22	1127	1	60	F.	R.	"	Good	" "	"
23	1140	1	60	M.	L.	"	"	" "	"
24	1143	2	72	F.	L.	"	"	" "	"
25	1269	1	54	F.	L.	Projection not good	"	No iridectomy .	"
26	1305	1	56	M.	L.	Good	"	Usual operation .	"
27	1308	—	45	F.	R.	"	"	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Iritis and P.S.	6/24	..	..	..	..	R., No. 1494 (year 1891).
None	4/60	6/36	Needling	None	6/24	Central choroiditis.
K. striata	6/12	..	..	..	..	R., No. 1224 (year 1891).
None	6/9	6/9 J. 1				
"	6/60	6/36	Needling	None	6/6 J. 1	L., No. 1844.
"	6/12 J. 6					
"	3/60	..	..	..	..	Vitreous opacities.
Iritis and K.P.	1/60	1/60	..	..	..	R., No. 847 (year 1889). L. Iridocyclitis in 2 months.
K. striata	6/18	6/6 J. 1	..	..	..	R., No. 1784 (year 1891).
"	6/36	6/24	Needling 2	None	6/9	Central choroiditis.
None	6/9	..	..	..	..	R., No. 197.
"	6/18					
"	2/60	6/60	Capsule extraction	None	6/6 J. 1	
"	Hand-movement	1/60	Needling	None	6/12 J. 6	Capsule.
Prolapse of vitreous	3/60					
Hypopyon P.S.	P. L.	..	G. cautery to wound.			
None	3/60	..	..	..	..	L., extraction in 1885. Did well.
K. striata	6/36	6/60 J. 16	Needling	None	6/12 J. 1	Capsule.
"	6/18	6/12	Needling	None	6/6 J. 1	
Suppuration	ion	No P.L.	..	..	..	L., No. 1339. R., globe shrunk.
K. striata.	6/24	6/24 J. 12	Needling	None	6/18 J. 4	
Atropine irritation. Iritis						
None	6/9 J. 6					
K. striata and iritis	..	..	..	..	..	R. extracted, and lost elsewhere in 1891.
None	6/36 J. 8					
"	6/12	6/6 J. 1				
K. striata.	2/60	..	Needling.	Capsule adherent to scar	Fingers at 2'	
Glaucoma.			Paracentesis 2. Curette evacuation. Iridectomy downwards.			

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
28	1353	1	75	F.	R.	Corneal nebula	Good	Usual operation .	None
29	1355	1	77	M.	R.	Good	"	" "	"
30	1378	1	63	M.	R.	Corneal nebula	"	" "	"
31	1423	1	31	M.	L.	Good	Unsteady ..	" "	"
32	1573	2	71	M.	R.	Corneal nebulae	Good	" "	"
33	1616	2	71	F.	L.	Good	"	" "	" {
34	746	1	71	..	R.				
35	1692	1	50	F.	L.	"	"	Scoop extraction	Vitreous lost ..
36	1704	2	65	F.	R.	"	"	" "	" " ..
37	1721	2	56	M.	R.	"	"	Usual operation .	None
38	1722	1	57	M.	L.	"	"	" "	"
39	1753	1	72	F.	L.	"	"	" "	"
40	1752	1	77	F.	L.	"	"	" "	"
41	1929	2	77	F.	L.	"	"	" "	"
42	1937	1	62	F.	R.	"	"	" "	"
43	968	1	31	F.	L.	Old iritis and coloboma	"	" "	"
44	871	1	72	M.	R.	Good	"	" "	"
45	1686	1	24	M.	L.	Zonular cataract	"	No iridectomy ..	" Iris much stretched

1	107	1	75	F.	R.	Good	Good	Conjunctival flap. Iridectomy. Capsule opened with cystotome	None
2	291	1	90	M.	L.	"	Feeble	Usual operation .	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	Fingers at 2'	..	..	..	..	Capsule.
"	2/60	6/60 J. 15	Needling	..	6/24 J. 12	Capsule. Tobacco amblyopia.
"	6/24 J. 10	6/12 J. 2	..	..	..	Capsule.
"	6/60 J. 14	6/60	Needling	..	6/6 J. 1	Capsule.
"	6/24	6/24	Needling	..	6/18 J. 6	L., No. 424.
Corneal ulcer .	3/60	6/60 J. 14	..	..	..	Some capsule.
None	6/60	6/18 J. 2	1. Needling 2. Capsule extraction	..	6/6 J. 1	
"	6/24 J. 12	6/6 J. 1	..	..	..	R., optic atrophy.
Prolapse of vitreous	1/60	1/60	Needling	..	6/12 J. 4	L. did well.
None	6/18 J. 4	..	..	..	..	L., No. 1305.
"	6/18 J. 4	..	..	..	..	
"	6/24 J. 10	6/12 J. 1	..	..	..	
K. striata and iritis	6/60 J. 16	..	1. Needling 2. Iridectomy	Glaucoma	Hand-movement	
None	3/60 J. 16	2/60	..	..	..	R., extracted in 1885. Did well. Hemorrhages at and about maculæ in both eyes. L., vitreous opacities and capsule.
K. striata. Atropine irritation.	6/60 J. 18	6/24 J. 12	Needling	..	6/6 J. 1	
..	Fingers at 4'. J. 20	..	Iridotomy, Needling	Vitreous lost	6/36	
None	6/18	6/24 J. 1	..	..	..	
Post. syn.	Hand-movement	6/6 J. 1	..	..	..	

None 6/18 J. 6

Iritis. Sympathetic ophthalmia

6/24 J. 12

Fingers at 12'

..

..

..

Followed by sympathetic ophthalmia and serous iritis in both.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
3	374	1	57	F.	L.	Good	Alcoholic...	Usual operation .	None
4	394	1	77	F.	R.	„	Good	„ „	„
5	415	2	75	F.	R.	„	„	„ „	„
6	433	1	70	F.	R.	Loose lens..	„	Scoop extraction	Loss of vitreous
7	436	1	61	M.	L.	Old iritis and coloboma downwards	„	Extraction downwards	None
8	491	2	31	F.	R.	Old iritis, &c.	„	Scoop extraction	Fluid vitreous lost
9	578	1	68	M.	L.	Good	„	Usual operation .	Lens difficult to deliver
10	625	2	67	M.	R.	„	„	Section from without inward	None
11	648	2	41	F.	L.	„	„	Usual operation .	„
12	663	2	71	F.	L.	„	„	„ „	„
13	665	1	64	M.	R.	„	Deaf	„ „	„
14	703	2	77	F.	L.	„	Good	„ „	Cornea flaccid..
15	751	1	75	F.	L.	„	„	„ „	None
16	756	1	66	M.	L.	„	„	„ „	„
17	772	1	80	M.	R.	Loose lens..	„	Scoop extraction	„
18	778	1	66	F.	R.	Good	„	Usual operation .	Soft matter left
19	832	2	74	M.	L.	„	„	„ „	None
20	912	1	58	F.	R.	Ch. conjunctivitis	„	„ „	„
21	966	1	63	M.	R.	Good	„	„ „	„
22	961	1	56	F.	L.	Corneal nebulae	„	„ „	„
23	984	2	60	M.	L.	Catarrh of Lac. sac.	„	„ „	„
24	1044	1	78	M.	R.	Good	Feeble	„ „	„
25	1146	1	57	F.	L.	„	Anæmic....	„ „	Lens difficult to deliver
26	1196	1	45	M.	L.	Corneal nebulae. Loose lens	Albuminuria	„ „	Fluid vitreous lost

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/18	6/36	Needling Paracentesis (7)	Glaucoma	1/60 J. 19	
K. striata.	6/18 J. 8	6/12 J. 4	..	..	..	L., No. 1752 (year 1892).
Iritis and K. striata. Glaucoma	6/60 J. 10	Fingers at 3"	Iridectomy for glaucoma	Loss of vitreous	Fingers at 2"	
Severe iritis ..	5/60 J. 20	6/36	..	..	..	Pupil much drawn up.
Iritis, &c.	Fingers at 12"	..	Iridotomy (5)	Vitreous lost	Fingers at 12"	R. blind from optic atrophy, &c.
Suppurative iritis	..	..	Excision	..	..	L., No. 968 (year 1892).
None	6/9 J. 8					
"	6/60 J. 18	6/18 J. 6	..	..	..	L., No. 1162 (year 1891).
"	6/12 J. 6	6/12 J. 6	Needling	..	6/12 J. 6	R., No. 1087 (year 1892).
"	6/18 J. 2	..	..	..	..	R., No. 397 (year 1893).
"	6/36 J. 14	4/60 J. 18	Needling	..	6/18 J. 6	
"	6/36 J. 12	6/12 J. 6	..	..	..	R., No. 394.
K. striata.	6/12 J. 12					
None	6/60 J. 19	Hand-movement	..	..	..	Capsule. Optic atrophy and central choroiditis.
"	3/60 J. 19	6/60 J. 19	1. Capsule extraction 2. Needling	..	6/60 J. 19	Vitreous opacities.
K. striata. Post. synech.	4/60 J. 19	6/36 J. 19	Capsule extraction	..	6/6 J. 1	
K. striata. Corneal ulcer	5/60 J. 20	..	Paracentesis	..	..	R., No. 871 (year 1892).
Iritis	6/18 J. 12					
None	6/24 J. 12	6/12 J. 8	Needling	..	6/12 J. 6	
"	6/36 J. 15	6/36 J. 1	..	..	..	Fundus changes.
K. striata.	6/18 J. 6	6/18 J. 6	..	..	..	R., No. 1763 (year 1889).
Suppuration ..	..	..	1. G. cautery 2. Excision	..	..	Primary suppuration.
K. striata and iritis	6/24 J. 4	6/6 J. 2				
Iritis and P. S.	6/24 J. 12	1/60 J. 20	Needling	..	1/60 J. 20	Vitreous opacities.

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
27	1470	2	25	M.	R.	Zonular cataract	Good	Usual operation.	None
28	1494	1	68	F.	R.	Good	"	" "	"
29	1556	1	69	F.	R.	"	"	" "	"
30	1557	1	71	M.	L.	"	"	" "	"
31	1601	1	58	F.	R.	Projection bad	"	" "	"
32	1628	1	61	F.	R.	Good	Alcoholic...	" "	"
33	1648	1	75	F.	L.	"	Good	" "	Sticky lens ..
34	1677	1	58	F.	L.	"	"	" "	None
35	1752	1	28	M.	L.	"	"	" "	"
36	1901	1	67	F.	R.	"	"	" "	"
37	1961	1	64	M.	R.	"	"	" "	"
38	164	2	32	M.	R.	"	"	" "	"

1	82	1	68	M.	R.	Good	Good	Section upwards. Iridectomy. Capsulotomy done with cystotome	None
2	103	1	53	F.	R.	"	"	"	"
3	104	1	67	M.	L.	"	"	"	"
4	116	2	62	M.	R.	"	"	"	"
5	152	2	66	M.	R.	"	"	Usual operation. Soft matter scooped out	"
6	260	2	53	F.	L.	"	"	Usual operation.	"
7	280	1	82	M.	R.	"	"	" "	Soft matter left
8	331	2	59	F.	L.	"	"	" "	Some vitreous lost
9	355	2	68	M.	L.	"	"	" "	Lens required much manipulating to remove it. Iris bruised, &c.
10	469	1	33	F.	L.	"	Unsteady ..	" "	None

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/18 J. 1	..	..	..	..	L., No. 1686 (year 1892).
"	6/36 J. 16	6/9 J. 1	Needling	..	6/9 J. 1	
"	6/60 J. 15	6/60 J. 15		..	6/6 J. 1	
"	6/24 J. 12	1/60 J. 19		..	6/6 J. 1	
Slight iritis and entropion	6/18 J. 12	6/12 J. 1	"	..		
None	6/24 J. 10	6/9 J. 1	Needling	K. striata	6/24 J. 12	Lost from sympathetic after extraction of R. R. remained good. Vitreous opacities. R. healthy.
K. striata.	1/60	6/36 J. 4				
Inner angle of coloboma entangled						
None	6/36 J. 19	Fingers at 12'	..	..	..	
"	6/36	..	..	..	..	
Iritis	6/36 J. 15	6/18 J. 4	Needling	..	6/6 J. 1	L. extracted, No. 1423 (year 1892).
None	6/24 J. 12	6/18 J. 4				
Iritis	6/12 J. 1	6/9 J. 1	..	..	..	

Iritis and P.S.	J. 20	6/12 J. 2				
" "	6/24 J. 12	6/24 J. 12	Needling	None	6/6 J. 1	
" "	J. 20	6/24 J. 12	Needling	"	6/12 J. 1	
Iritis and K.P.	6/24	6/18 J. 12	..	..	..	L. did fairly well. R. capsule.
Slight iritis ..	6/24 J. 6	..	..	..	..	L. did well.
Iritis and P.S.	6/36 J. 12	..	..	..	..	R. did well. No. 103.
None	6/60 J. 18	6/12 J. 2				
Iritis and P.S.	6/60	..	..	..	..	R. did well.
Suppuration ..	Hand movement	..	..	..	..	R. did well. No. 82.
None	6/36 J. 10					

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
11	617	2	82	M.	L.	Good	Good	Usual operation .	None
12	691	1	48	M.	R.	"	"	" "	"
13	831	1	82	F.	L.	"	"	" "	"
14	866	2	69	M.	R.	"	"	" "	"
15	915	1	56	F.	R.	Not good ...	Bad health	" "	Soft matter left
16	1004	1	66	M.	L.	Good	Good	" "	Much manipu- lation in de- livering lens
17	1007	1	59	M.	R.	"	"	" "	Iris dragged upon
18	1061	2	59	M.	L.	"	"	" "	Iris torn
19	1064	1	..	M.	L.	"	"	" "	None
20	1116	1	68	F.	L.	T +	Cough	" "	"
21	1170	2	48	F.	R.	Good	Good	" "	"
22	1363	1	65	M.	L.	Brown nu- cleus	"	" "	"
23	1421	1	62	F.	L.	Projection bad on nasal side	Fair	" "	Lens matter scraped out
24	1747	1	48	F.	L.	Good	Good	" "	None
25	1779	1	61	F.	R.	"	"	" "	"
26	1824	1	76	M.	L.	"	"	" "	"
27	1919	1	73	F.	L.	"	"	" "	"
28	1922	1	65	F.	R.	"	"	" "	"
29	2022	1	65	M.	L.	Cornea nebu- lous	"	" "	"
30	2034	1	69	M.	R.	Projection fair	Fair	" "	"
31	2075	1	65	F.	R.	Good	Good	" "	"
32	2179	1	70	M.	L.	Trace of old iritis	"	" "	Soft matter rather difficult to remove
33	2219	2	75	F.	R.	Good	Cough	" "	None
34	2257	1	64	F.	L.	"	Paralysis agitans	" "	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	1/60	..	..	..	..	R. did well. No. 280. Some lens matter remained.
Severe iritis...	..	6/6 J. 1	Needling	None	6/24 J. 6	L. extraction, followed by iritis.
Slight iritis...	..	6/60				
" " ...	6/60 J. 18	6/6 J. 1.				
Iritis	..	6/9 J. 1.	..	..	..	R. did well.
"	6/60 J. 16					
Slight iritis...	3/60 J. 19	6/36 J. 8				
None ..		6/9				
None	6/36 J. 12					
"	6/36	..				
"	3/60	6/24 J. 18				
"	J. 18					
"	6/60 J. 8	6/12 J. 2				
"	6/60 J. 16	6/18 J. 1				
Slight iritis...	J. 16	6/12 J. 1	..	..	..	R. lost from traumatic ulcer and excised.
Spasmodic entropion	1/60	6/24 J. 12	..	..	..	L. did well.
Iritis	6/24 J. 6					
None	6/36 J. 16	6/9 J. 1				
"	6/36	6/6 J. 1				
Slight iritis...	6/60 J. 8	6/6 J. 1				
" " ...	6/18 J. 6	6/9 J. 1				
" " ...	J. 20	6/18 J. 2				
None	6/12 J. 2	6/6 J. 1				

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
1	14	1	61	F.	R.	Myopic ..	Good	Section upwards. With iridec- tomy. Capsule opened with cystotome	None
2	125	1	51	F.	R.	High myopia. Old iritis and P.S. T. — 1. Projection bad	"	Usual operation.	"
3	379	2	64	F.	R.	Good	"	" "	"
4	404	1	47	F.	L.	Old iritis and P.S. Pro- jection bad T. —	"	" "	"
5	444	1	63	M.	L.	Vitreous opacities	"	" "	"
6	466	2	70	M.	R.	Good	"	" "	"
7	665	1	59	F.	R.	"	"	" "	Soft matter diffi- cult to remove
8	666	2	74	F.	R.	"	"	" "	Soft matter scraped out with curette
9	706	2	65	M.	R.	"	"	" "	Iris fell before the knife
10	724	2	69	M.	L.	"	"	Usual operation, but incision was enlarged	..
11	779	1	69	F.	R.	Cortex fluid	"	Usual operation.	None
12	868	1	76	F.	L.	Projection bad, amber- coloured nucleus	"	" "	Soft matter left
13	898	1	62	F.	R.	Good	"	" "	None
14	942	2	67	M.	R.	"	"	" "	"
15	947	2	50	F.	R.	Myopic	"	" "	"
16	1021	1	63	F.	R.	Good	"	" "	"
17	1067	1	56	M.	R.	"	"	" "	"
18	1090	1	56	F.	L.	"	"	" "	None

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/36	2/60 J. 19	..	..	..	Vitreous opacities and choroidal atrophy.
Iritis.....	P. L.					
„ „ purulent.	6/9 J. 1 No P. L.	..	..	..	..	L. did well.
None	6/12 J. 4	6/18	Needling	None	6/9 J. 1	V. again failed; cause not stated.
„	6/12	6/12	..	..	..	L. extraction did well. No. 2179 (year 1889).
„	6/60	6/6 J. 1				
Spasmodic entropion	6/60	..	..	..	..	L. did well. No. 1919 (year 1889).
Iritis.....	6/6	..	..	..	..	L. did well. No. 2022 (year 1889).
..	..	5/60 J. 2	..	..	..	R. did well. Central choroiditis and optic atrophy five years later.
None	3/60	6/60	..	..	..	Choroiditis.
Iritis and glaucoma	Hand-movement					
None	5/60	6/9 J. 1	..	..	..	Some old choroiditis.
Iritis.....	Hand-movement	Counts fingers	Needling(2)	..	Hand-movement	L. did badly after extraction elsewhere. R. vitreous opacities and choroiditis.
„	6/24 J. 12	6/24	Needling	..	6/24	R. did fairly well. L. iridocyclitis a year after extraction. V. = 6/24.
„	6/18					
Iritis P. S.....						

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
19	1104	2	50	M.	L.	Good	Good	Usual operation.	None
20	1121	1	67	M.	R.	Hypernature cataract	"	" "	"
21	1176	1	74	M.	L.	Catarrhal conjunctivitis	"	No iridectomy..	Iris much stretched
22	1218	1	53	M.	L.	Good	"	" " ...	Lens removed with hook after much difficulty and the loss of much vitreous. It hitched beneath iris
23	1233	1	73	M.	R.	"	"	" " ...	None
24	1261	1	34	F.	R.	Projection bad	"	Usual operation.	"
25	1447	1	71	F.	L.	Good	"	" "	"
26	1476		74	M.	R.	Morgagnian cataract	"	" "	"
27	1476		"	"	L.	Good	"	" "	"
28	1492	1	69	F.	L.	"	"	" "	"
29	1493	2	62	M.	R.	"	"	" "	"
30	1521	1	47	M.	R.	"	"	" "	"
31	1494	1	58	M.	R.	"	Diabetic ..	" "	Much soft matter left
32	1522	2	67	M.	R.	"	Good	" "	None
33	1645	2	63	M.	R.	"	"	" "	"
34	1902	2	48	M.	L.	"	"	" "	"
35	1902	1	"	"	R.	"	"	" "	"

1	57	1	28	M.	L.	Coloboma upwards	Albuminuria	After preliminary iridectomy.	None
2	"	2	"	"	R.	Post. syn. ..	..	With iridectomy. Conjunctival flap. Capsule opened with cystotome	..

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Iritis and P.S.	6/24	4/60	Needling	None	6/6 J. 1	R. had severe iritis, but did well. No. 691 (year 1889). Patch of choroiditis.
Severe iritis...	6/36	6/24	Needling	..	6/24	
None	6/24	6/6 J. 1				
Slight iritis..	6/36					
Prolapse of iris	..	..	Iridectomy	None	6/9 J. 1	L. old blind eye. L. detached retina, &c., after blow. R. also has detached retina. Myopia both.
Iritis.....	..	..	..	..	..	
None	6/18					
Very slow healing of wound						
None	6/9 J. 1					L. lost after extraction elsewhere.
Severe iritis ..	6/36	..	..	..	..	
None	6/12	6/9 J. 1				
Iritis	..	6/60	..	..	..	
None	6/60	..	..	..	..	L. did fairly well. No. 467 (year 1889).
Severe iritis...	3/60	6/24 J. 10	Needling	None	6/6 J. 1	L. did well.
K. Striata	6/24					
None	6/18					

None	6/24	1/60				
..	3/60 J. 19	6/12 J. 4				

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
3	185	1	65	M.	L.	Good	Good	With iridectomy	None
4	189	1	71	F.	L.	"	"	No iridectomy ..	"
5	302	1	70	M.	L.	"	"	" "	"
6	305	1	74	F.	L.	"	"	" "	"
7	473	1	67	F.	L.	"	"	With iridectomy	Difficult to deliver
8	482	2	71	M.	L.	"	"	Scoop extraction with iridectomy	Vitreous lost. . .
9	517	1	71	M.	L.	"	"	With iridectomy	None
10	544	1	70	F.	L.	Projection not good	"	" "	Iris fell before knife
11	654	2	59	M.	L.	Good	Diabetes. . .	After preliminary iridectomy	None
12	722	1	50	M.	R.	"	Good	With iridectomy	"
13	823	1	62	F.	L.	"	"	No iridectomy ..	"
14	1041	1	53	F.	L.	"	"	With iridectomy	"
15	1054	1	61	M.	L.	"	"	No iridectomy ..	"
16	1078	2	67	F.	R.	"	"	With iridectomy	"
17	1213	2	52	M.	R.	"	"	No iridectomy ..	"
18	1253	2	62	F.	R.	"	"	" " "	"
19	1284	1	59	F.	L.	"	"	" " "	"
20	1315	1	61	F.	L.	"	"	" " "	"
21	1345	1	64	M.	L.	"	"	Iridectomy after extraction	"
22	1349	1	64	F.	R.	"	"	No iridectomy ..	"
23	1402	1	80	F.	R.	"	"	With iridectomy	"
24	1367	1	74	F.	R.	"	"	No iridectomy ..	"
25	1758	1	69	M.	R.	"	"	" " "	Soft matter left
1	212	2	66	F.	R.	Good	Ch. rheumatism	Conjunctival flap. No iridectomy. Capsule opened with cystotome	None
2	228	1	65	M.	R.	"	"	Usual operation. No iridectomy	"
3	229	1	70	M.	R.	"	"	With iridectomy. Iris transfixed	Soft matter left
4	421	1	59	F.	R.	"	"	No iridectomy ..	None

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/24	6/6 J 1				
"	2/60					
"	6/36	6/12 J. 1				
" ..	6/60 J. 15					
Iritis.....	6/12 J. 1	6/18 J. 1				
Iritis in two months	6/9 J. 1	6/24	..	..	..	1st eye did well six years ago.
None	6/12					
" ..	Hand-movement	..	..	..	..	Lens matter present.
Iritis	3/60 J. 16	6/36 J. 12	..	..	..	R., No. 1494 (year 1890). Capsule.
K. striata....	6/12					
None	6/12	6/6 J. 1				
Iritis	6/36	6/36	Needling	..	6/6 J. 1	
None	6/9	6/60 J. 8	Needling	..	6/6 J. 1	
"	6/36	6/36 J. 10	..	..	..	L., No. 473.
Prolapse of iris	1/60	..	Iridectomy for prolapse	..	6/60 J. 16	L. extracted five years ago elsewhere. Did well
None	6/6 J. 1	..	..	..	..	L., No. 823.
Prolapse of iris	6/24	..	Prolapse returned	Iris remained caught in wound	6/9 J. 1	
None	6/60	6/24 J. 12	..	..	..	Wants needling.
"	6/12					
"	6/9					
K. striata ..	6/36					
Iritis	6/60	6/36	Needling	..	6/9 J. 2	Iritis followed a blow.
" ..	6/12	6/9				

Iritis and P.S.	3/60	6/24	..	..	..	L. extracted six years ago. Dense membrane.
Slight iritis ..	6/24 J. 15					
Iridocyclitis and K. punctata	Hand-movement					
Prolapse of iris	6/18	..	Iridectomy for prolapse			

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
5	435	1	57	F.	L.	Good	Ch. bronchitis	After preliminary iridectomy	None
6	596	2	54	F.	R.	"	"	No iridectomy ..	"
7	667	1	62	F.	R.	"	Good	" " "	"
8	691	2	76	F.	L.	"	"	Iridectomy after extraction	Vitreous lost ..
9	752	1	57	F.	R.	Old iritis and coloboma	"	After previous iridectomy	Vitreous presented
10	1015	1	82	F.	L.	Epiphora ..	Feeble	With iridectomy	Difficult to deliver
11	1021	2	70	M.	L.	Good	Good	No iridectomy ..	Loose lens
12	1345	1	73	M.	R.	"	Unsteady ..	With iridectomy	Soft matter left
13	1520	1	70	F.	L.	"	Good	" "	C. flaccid
14	1534	1	39	M.	L.	Myopia	"	After preliminary iridectomy	Fluid vitreous lost
15	1933	1	51	M.	R.	Good	"	With iridectomy	Iris buttonholed

1	9	2	49	M.	R.	Good	Good	Conjunctival flap. Iridectomy. Capsule opened with cystotome.	Iris buttonholed
2	149	2	..	M.	L.	"	Unsteady...	With iridectomy	" "
3	288	1	64	M.	R.	"	"	" "	None
4	304	1	66	F.	L.	"	Good	" "	"
5	349	1	..	F.	R.	Old hypopyon ulcer	"	" "	Vitreous presented
6	481	1	64	M.	R.	Good	"	" "	None
7	574	1	54	M.	L.	"	"	" "	"
8	597	2	58	F.	R.	"	"	" "	None
9	683	1	54	F.	R.	"	"	" "	"
10	850	2	61	F.	R.	"	"	" "	Soft matter left
11	873	1	53	F.	L.	"	"	" "	" "

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
Iritis	6/24	6/24 J. 10	Needling	..	6/6 J. 1	
None	2/60	6/12 J. 12	Needling	..	6/6 J. 1	L., No. 1041 (year 1891).
Iris adherent to scar. Iritis	6/18 J. 4					
None	1/60	6/36	Needling	...	6/18	
Iritis	Hand-movement					
None	6/60 J. 15					
Prolapse of iris	6/36 J. 4	..	Iridectomy for prolapse	..	..	R., No. 1750 (year 1891).
None	6/60					
Iritis and hypopyon	Hand-movement	P. L.	..	..	..	Hypopyon in six weeks.
None	1/60	5/60	Needling	..	6/24 J. 1	Fundus changes. Vitreous opacities.
„	6/24 J. 6	6/18 J. 4				

None	6/12 J. 6	6/6 J. 1	..	..	..	L. did well six years ago.
„	6/9 J. 4	..	..	..	..	R., No. 1933 (year 1892).
None	6/24 J. 10	6/9 J. 1				
Post syn.	6/9 J. 4					
Cyclitis, &c....	Hand-movement	..	..	..	..	L. lost from hypopyon ulcer.
K. striata	6/12 J. 6	6/18 J. 1				
K. striata and glaucoma	1/60 J. 20	Fingers at 18"	1. Iridectomy (2). 2. Needling 3. Paracentesis.	..	1/60	
Slight iritis ...	1/60 J. 19	2/60 J. 19	Needling	..	6/18 J. 6	L., No. 435 (year 1892).
None	6/12 J. 1	..	..	..	..	L., No. 1284 (year 1891).
Iritis and P. S.	Hand-movement					
None	6/24 J. 8	6/18 J. 10	Needling	..	6/6 J. 1	

No. of case.	Hospital Register.	Eye.	Age.	Sex.	R. or L.	Condition of eye.	Condition of patient.	Operation.	Complications at time of operation.
12	1142	1	53	M.	R.	Good	Good	With iridectomy	None
13	1346	1	58	M.	R.	"	"	After preliminary iridectomy	"
14	1359	1	77	M.	R.	"	"	With iridectomy	Removed with difficulty
15	1384	1	63	M.	L.	"	"	" "	C. flaccid.....
16	1481	1	65	M.	R.	Projection not good	Alcoholic, diabetes	" "	Soft matter left
17	1619	1	59	F.	R.	Good	Good	" "	" "
18	1615	1	79	M.	R.	"	"	" "	" "
19	1671	2	53	M.	L.	"	"	" "	" "
20	1707	2	66	F.	L.	Myopic.....	"	" "	" "
21	1743	1	62	M.	L.	Projection not good	"	" "	" "
22	1839	1	59	M.	L.	Hypermat. Very tough capsule	"	Capsule forceps tried, but failed. Cystotome used. Hook extraction. Vitreous lost.	None
23	1865	1	45	F.	L.	Hypermat.	Alcoholic...	With iridectomy	"

Secondary complications.	Immediate result.	Remote result.	Secondary operations.	Complications after secondary operations.	Result after 2nd operation.	Remarks.
None	6/36 J. 8	6/6 J. 1				
Suppuration		..	1. G. cautery. 2. Removal of lymph. 3. Excision	..	..	Primary suppuration.
K. striata.....	6/60 J. 15	6/18 J. 1	..	..	..	Central choroiditis in both.
Iritis and P. S.	6/36 J. 8	6/6 J. 1	..	..	..	R., No. 481.
None	Hand-movement	1/60	Needling	..	6/24	
Post syn. Iritis	Fingers at 6"	3/60 J. 14	Membrane divided with scissors	..	6/24 J. 12	
..	1/60	6/18 J. 8				
Iritis	6/60 J. 15	6/24 J. 6	Needling	..	6/6 J. 1	R., No. 1142.
None	6/36 J. 16	..	..	..	..	Choroidal atrophy and vitreous opacities. R., No. 14 (year 1890).
Iritis and K. striata	6/60 J. 18	6/6 J. 1				
None	1/60	1/60	Needling(2)	..	6/12 J. 6	
,	6/24	6/9 J. 1				

CONTRACTURE AND OTHER CONDITIONS FOLLOWING
PARALYSIS OF OCULAR MUSCLES.

By W. T. HOLMES SPICER.

RECORDED cases of high degrees of contracture of the muscles of the eye following paralysis of their opponents have not been very numerous in the literature of English ophthalmology; the following cases are of interest from a consideration of their causation, and also as presenting a series of varying degrees of contracture from their highest to their lowest forms. The existence of contracture may be unsuspected, and the attempt to divide an organically shortened muscle may present difficulties, owing to the contracted space in which the operation has to be performed, the consequent danger of wounding the sclerotic, and the great toughness of the fibrous bands into which the muscle has been converted. Free exposure of the tendon is necessary, and successive bands must be divided far back until the globe can be brought into a more correct position; it is sometimes impossible to use a squint-hook owing to the difficulty of introducing it beneath the tendon. The prognosis must always be a guarded one where the contracture is of long standing, as the muscle is, to a greater or less extent, functionless, owing to the change in its structure, and if the operation succeed in rectifying the faulty position, it will not restore a proper range of movement to the eye.

The question of what part paralysis of a muscle and subsequent slight contracture of its opponent play in the development of concomitant squint arises out of the consideration of contracture itself; among a large number of patients, cases often appear in which a fully-developed convergent squint, confined to one eye, has appeared suddenly during strain, produced by a fit, or attack of vomiting or coughing; the resulting limitation of move-

ment is considerable, and the phenomena are not easily explained by their association with hypermetropia, or by the presence of a congenital muscular insufficiency. These cases occur mostly in infants during a time when the tunics of the eye are soft and yielding; the development of astigmatism as a consequence of a defect of traction in a muscle acting on such a plastic eyeball is possibly a considerable element in the production of the amblyopia of squinting eyes.

*Paralysis of 2nd, 4th, 5th, 6th, 7th, and 8th Cranial Nerves ;
Partial Paralysis of 3rd ; Secondary Contracture of Internal
Rectus.*

Minnie M., aged 5 (V. H. III, 447), came to the Victoria Hospital on April 24, 1893. There was a history of slight ophthalmia in both eyes just after birth, not enough to attract the doctor's attention. Her mother is sure that she has had no other illness; her face was noticed to be drawn to one side shortly after birth; she had no sign of a fit or other cerebral affection at any time.

The birth was natural; instruments were not used. There is no history of syphilis either personal or in the family.

There is complete facial paralysis of the right side, the orbicularis does not act, the cornea is exposed by the falling away of the lower lid. The eyeball is dry, and the secretion of tears seems to be diminished. The cornea is densely opaque and covered with a horn of dried mucus, which projects between the lids and gives the child a somewhat repellent appearance; she has been sent away from school as she frightens the other children; the whole eyeball is completely insensitive; it was possible to scrub its surface hard to remove the mucus without giving any sensation. The right side of the face is insensitive; all the divisions of the 5th nerve are affected; all the teeth of both upper and lower jaws on the right side are carious and broken off to the level of the gums; the teeth of the other side are quite sound.

There is incomplete ptosis on the right side; the lid is partly held up by the levator palpebræ. The right eye is almost

immovable; it is kept in a position of convergence, and only a limited amount of horizontal movement is possible with it; there is no vertical movement.

There is no perception of light; smell and hearing are doubtful, but she does not seem to hear on the affected side.

The movements and vision of the left eye are normal.

The mother asked that the eye might be removed, as it was so unsightly; under anæsthetic it was enucleated.

The eyeball could not be drawn out straight on account of the rigid and shortened internal rectus; there was no matting together of the orbital tissues; the globe was not adherent; there was no sign of past orbital cellulitis. The socket healed normally.

An examination of the optic nerve showed it to be atrophic; a fragment of the internal rectus muscle was examined; it was very fibrous, but a certain amount of muscular tissue was present; there was no fatty change.

In this case the 2nd, 3rd, 4th, 5th, 6th, 7th, and probably the 8th cranial nerves were involved; parts of the 3rd nerve had either escaped or had recovered their function, there was only partial ptosis, the internal rectus acted feebly and was contracted. The escape of certain branches of the 3rd nerve points to the orbit as a possible seat of the lesion, but apart from there having never been any sign of protrusion or of retraction of the orbital contents there was also involvement of the other divisions of the 5th nerve and of the 7th nerve. It is probable that the lesion causing the paralysis was in the middle fossa of the skull, the optic nerve anterior to the chiasma being also involved. The purely unilateral character of the paralysis would exclude a nuclear affection.

A slowly-growing tumour would be a possible explanation, except that there had been no progression of the disease since birth; the most probable cause was a chronic meningitis of the base, possibly of syphilitic nature, occurring during foetal life or during the first few weeks after birth.

Contracture of Internal Rectus of High Degree.

Minnie L., aged 5, came to Mr. Nettleship's clinic, Moorfields, on October 26, 1889.

Convergent squint was noticed first when she was 6 weeks old; it had always been present since; it appeared to change from one eye to the other at times. There was no history of injury.

October 30. Under atropine V. R. = 6/24. No improvement. V. L. = <6/60 c +1 D.S./+2 D.cyl. Ax = 6/24.

High degree of convergent strabismus, which appears to alternate, and is of a higher degree in the left eye.

As the patient came from a distance and the squint was of such a high degree, operation was advised at once; the left internal rectus was divided under anæsthetic, and the operation called for no remark.

November 27. The convergence does not seem diminished. Under ether, tenotomy of the right internal rectus was performed. After introducing the speculum and grasping the conjunctiva by fixation forceps, it was found that the eye could not be drawn out at all; it was firmly fixed by the internal rectus. An incision was made over the lower border of the tendon, but it was not possible to introduce the hook beneath the muscle, which formed a tense rigid band; the incision was prolonged upwards over the insertion of the tendon, the conjunctiva was dissected back, and the tendon fully exposed; it was then divided without much difficulty. After a free division, the eyeball could be drawn out fully; there was no further limitation to its movement. The conjunctiva was sutured. Glasses were ordered: R. +1.5 D. sph.; L. +2 D. cyl. Ax. | .

December 4. The eyes are straight and the movements fairly good.

March 12, 1890. The eyes are straight.

In this case an early paralysis of the R. external rectus left the internal rectus unopposed; the eyeball was gradually drawn over to the inner canthus, the muscle itself underwent shortening and kept the eyeball fixed in its new position; the external rectus afterwards recovered power, but was unable to overcome the shortening of its

opponent. The secondary deviation of the opposite eye, brought about when the formerly paralysed muscle tried to overcome the shortening of its contracted opponent, gave an appearance of alternation to the squint, and even made the squint appear greater in the L. eye.

High Degree of Convergence with Contracture of the Internal Rectus.

Agnes P., aged 8, came to Mr. Gunn's clinic, at Moorfields, on July 26, 1892. She is said to have always squinted; the nurse present at birth asserts that the L.E. was turned in from the very first.

The child has always had good health; never had fits nor skin eruptions; there were no other children, and no miscarriages.

Convergent strabismus of the L. of a high degree, upwards of 45° ; the movement to the L. is very defective, the eye cannot be made to turn out beyond the middle line.

Refraction, after atropine, R. Ht., 4.5 D. L. +5 D. She was ordered +3 D. to wear constantly.

November 25, 1893. Still very high degree of convergence. Tenotomy L. int. rect. V. Græfe's operation under chloroform by Mr. Gunn. The eye was firmly held to the inner canthus; it could not be drawn out enough to open the conjunctiva well. After opening Tenon's capsule, everything was divided as far back as possible, but still the eye could not be drawn out; the adhesions of the muscle to the deeper parts of the sclerotic were extremely dense and difficult to divide, but after careful and repeated attempts all the adhesions were divided and the eyeball could be moved out.

Contracture following Paralysis of External Rectus.

Edith B., aged 9 (V. H. III, 495), came to the Victoria Hospital on June 19, 1893.

She began to squint at 9 months of age, during an illness, said to be measles; she was an 8 months' child. There was a history of miscarriages in the family, but there had been no signs of syphilis in the child; she had not had snuffles nor skin

eruptions, and was not unhealthy looking; she had, however, had thrush very badly.

There was a very high degree of convergence with the L.; on attempting to look to the L. there was a certain amount of movement outwards, but not beyond the middle line; it could not be maintained in mid-position, but was unsteady.

V. R., 6/18. Refraction of R. +1 D. V. L., 6/60. Refraction of L. not easy to determine on account of the convergent

position of the eye, but probably $\times \begin{matrix} +1 \\ +2 \end{matrix}$. Under chloroform

tenotomy of the L. internal rectus was performed. Under the anæsthetic the eye remained strongly convergent, and could only be brought out with some difficulty, but the contracture of the internal rectus could be overcome by the hook introduced beneath it; it was then divided.

She had +1 D. sph. given her.

A year later there was still a considerable degree of convergence.

In Cases 1, 2, and 3 the peculiarity in the eyes was noticed as soon as the eyes were seen, that is, within the first six weeks of birth, and in none of them was there anything to explain the cause of the condition; the children had not apparently been suffering in any way, and there was nothing in the family history to account for the peculiarity. The contracture was less marked in the first case, for the reason that there had probably been a complete paralysis of all the muscles of the eye, but that some of them had recovered a certain portion of their activity, and shortening had taken place in them to a degree proportional only to the amount of recovery.

In the second case the squint was noticed at 6 weeks of age, and in the third case the nurse said that the squint was present at birth, so that in these two cases a very high degree of contracture took place as the result of a congenital paralysis; this is stated by Mauthner to be very uncommon.

The fourth case was an instance of a much smaller

amount of contracture, resulting from a paralysis of the external rectus in infancy, in which the shortening could be overcome by firm tension on the shortened muscle: in all the three latter cases the paralysed muscle had regained its activity, so that it was difficult to distinguish them from cases of concomitant squint depending on a high degree of insufficiency of one external rectus.

If a muscle be paralysed there is nothing to resist the action of its opponents, the eye at first remains in a neutral position, and simply fails to make any movement towards the paralysed side; but if the paralysis persist, the eye is gradually drawn more and more to the side of the active muscle and retained there. Contracture, that is an actual diminution in length of the muscle, rapidly follows, so that the eye is prevented from returning to its former position by the mechanical shortening of the contracted muscle.

This is analogous to what takes place in infantile paralysis, where the onset of paralysis of a group of muscles in a limb is followed, after a time, by an actual shortening in the muscles of the opposing group, so that, if neglected, the limb becomes permanently fixed in a new vicious position. Further, owing to want of use, the muscles of the active group undergo a certain amount of atrophy.

This contracture, when once reached, is permanent, but its degree varies with the duration of the primary paralysis. When the paralysed muscle completely and quickly regains its power, it is unable, if contracture has come on at all, to overcome the shortening of its opposing muscle, and re-establish parallelism of the visual axes: its range of action is limited by the amount of shortening which has ensued: as a consequence, the eyes take up a new position of convergence towards each other, in which their range of action may be very nearly full, and a condition which it is impossible to distinguish from concomitant strabismus is established.

Where the recovery from the paralysis is only partial, or has been postponed, there may be an intermediate condition, in which it is not easy to determine whether the squint is concomitant or is due to a previous paralysis. In extreme cases, that is, where the paralysis has remained permanent, it is stated that the contracted muscle is converted entirely into a fibrous band, while the eye remains immovably fixed in the angle to which it has been drawn by the shortened muscle (Mauthner, *Vorträge* II, 638).

It is also stated by Wecker and Landolt (III, p. 851) that contracture will develop in the healthy eye when it is excluded from fixation.

As to the significance of paralysis of single ocular muscles, it is noteworthy that they occur nearly always in the external rectus; there is nothing in the anatomical condition of the muscle itself which it does not share with the other eye muscles, and the reason for the comparative frequency with which it is attacked is to be found in the long course of the 6th nerve, between its origin at the front of the anterior pyramid and its termination in the muscle. Paralysis of the external rectus occurs in all states of refraction, in myopia and emmetropia occasionally, but most commonly in hypermetropia; this is owing to the greater relative frequency of hypermetropia among children. In a certain number of cases recovery is prompt and complete; in others it is only partial, and the muscle is permanently weak, or contracture of its opponent ensues.

The most common history of the cases is that the squint was noticed to come on suddenly during a temporary illness. Convulsions are a frequent alleged cause, or bronchitis or whooping cough, or teething. It has been noticed before that convergent squint of sudden onset is very commonly associated with an attack of whooping cough. As a rule, the cases are not seen at the earliest period because the mother almost invariably says she has been told that the child would grow out of it. This

implies a widespread belief among parents, if not among doctors, that the occurrence of squint is a very common condition, and is one that is mostly recovered from spontaneously. Possibly this is so, and the cases that persist form a small proportion only of the total number that occur.

Sudden paralysis of this kind would probably be the result of a hæmorrhage into the sheath of the nerve. Gowers (*Dis. Nerv. Syst.*, II, p. 191), says:—"Paralysis of an ocular muscle may be apparently the result of hæmorrhage into its sheath, compressing the fibres. . . . This mechanism is not uncommon, and may depend on a special arrangement of the blood vessels. The cases come within the general law that an organic lesion of actually sudden onset is always vascular, due to rupture or occlusion of a vessel. An onset during strain renders rupture scarcely questionable."

In the intense straining produced in the child during whooping cough, or a bad attack of bronchitis, or a fit, there are all the conditions necessary for the onset of a hæmorrhage. The paralysis must be regarded as a traumatic one, due to an extravasation of blood into the sheath of the nerve, brought about in the same way as hæmorrhages from the nose, or beneath the conjunctiva, or from the meninges, which are not uncommon during whooping cough.

But it may be that these are not cases of paralysis at all; they may be concomitant squint brought about by the relationship of the convergence to the accommodation. But, if so, how can we explain their sudden onset and permanence, their complete development at once, the definite limitation of movement which they show, their occurrence in one eye only, and their persistence after atropinisation, and the neutralisation of their refractive error. Their occurrence, too, in emmetropic eyes, or in eyes with small amounts of hypermetropia, cannot be explained on the accommodation-convergence hypothesis

unless we assume that after an exhausting disease, like whooping cough, the accommodation shares in the general weakness, and the excessive effort to exercise it results in the production of an excess of convergence. But, on the one hand, failure of vision is not present in these cases as it is in diphtheritic cycloplegia, and, on the other, the actual weakness of the accommodation, which does occur after diphtheria, does not bring about convergent squint, except rarely in a late stage of the affection, when the loss of accommodation is being recovered from. In order to explain these cases it is inevitable to assume either a previous paralysis or an insufficiency of one external rectus. It is difficult to determine which of these two causes is the correct one, although it might be thought that a congenital insufficiency would most probably be bilateral, and would show itself from the beginning, as soon as the eyes came to be used at all.

Coming now to the effect on the conditions of refraction and form of squinting eyes, there are some peculiarities which are almost constant.

When a squint is purely concomitant, and alternating, and no paralysis or inequality of muscles is present on the two sides, there is, as a rule, only hypermetropia of greater or less amount present; astigmatism, if present, is equal in the two eyes, and, as a rule, there is no serious defect of vision. But in a permanent squint limited to one eye it is practically always the case that the squinting eye is more astigmatic than its fellow; it is not always more hypermetropic; it frequently happens that the amount of the H. in the meridian of least refraction is less than that in the other properly directed eye. Next, in almost all the cases, the astigmatism is according to rule; that is to say, the vertical meridian is the one of greatest refraction; in other words, there is more H. in the horizontal than in the vertical meridian.

The association of these three factors—a convergent squint due to a defect of one external rectus, a flattening

or diminution in the curvature of the horizontal meridian of the cornea, and the occurrence of amblyopia in the deviated eye—is so common that it is difficult not to believe that there is some relationship of cause and effect between them.

A paralysis or insufficiency of one of the horizontal muscles like the external rectus will lead to a displacement of the eye by the opposing muscle, but it does not mean that there is greater tension on the eye by that muscle than in the normal state; it exerts the same power of traction, that of a muscle of normal tonicity, but its tonic action is unopposed. Consequently the sum of the powers of traction in the horizontal meridian is less than normal. As a consequence of the diminished traction exerted in the horizontal meridian of the eye, there will ensue a flattening of this same meridian; that is, a production of H. in the horizontal meridian. The amount of this flattening will be great in proportion to the plasticity of the eye; that is, in proportion to the earliness of the occurrence of the defect.

There is an interesting observation bearing on this made by Priestley Smith, in vol. iv of the *Ophthalmic Review*, p. 354. A lady suddenly had paralysis of the external and internal recti of one eye of rheumatic origin, the other muscles of the eye being unaffected. In testing her refraction, she was found to have 1 D. of My. As. in the vertical meridian, by the shadow test; a cylinder of that strength with its axis horizontal gave her almost normal vision. After treatment the movements of the eye were completely re-established, and all trace of the astigmatism disappeared.

Further, in a fair number of eyes affected with squint of this kind, if the refraction of the eye be worked out in other part of the fundus, it will be found that the alteration in curvature is not confined to the cornea alone; the equatorial and posterior regions of the eye often undergo very considerable alteration in curvature.

This change is sometimes very great ; it is more marked in eyes in which the squint comes on where there has been a widespread choroido-retinitis such as occurs in syphilitic children, in which it is easy to think that the globe has passed through a period when it was more yielding than normal, and during this period has yielded to the unequal pressure exerted on it by the recti muscles.

In a certain number of cases of convergent squint the squinting eye deviates up as well as in ; if the squinting eye be allowed to fix and the other eye be covered, its secondary deviation is sometimes internal purely, and sometimes down and in. This form of deviation is probably due to a peculiarity in insertion of the internal rectus ; Fuchs (v. Graefe's Archiv., xxx, 4, 1) found that considerable variations existed in the relative distances of the internal and external recti from the cornea, in many eyes the differences being as much as 2.5 mm. In only half the cases were the insertions symmetrical as regards the horizontal meridian, one or other muscle being raised or depressed ; in about half the cases the line of insertion was not perpendicular to the horizontal meridian. The insertions of the superior and inferior recti exhibited more asymmetry, and there were considerable variations in the extent of the line of insertion.

In some of the cases where this upward deviation of the squinting eye exists, the direction of the principal meridians of refraction of the cornea is oblique ; the obliquity of these meridians is possibly due to an obliquity in the direction of insertion of the muscles into the globe.

In working out the refraction of the eye in its different parts, accurate measurement is not easy, on account of the difficulty of being sure that the same region of the eye is being examined when making comparisons with the normally directed emmetropic or hypermetropic eye. For this reason, estimation by the erect image is unreliable ; but with the shadow test, carried out at a fixed distance, the visual axis of the observed eye being always directed

at the same angle of deviation, an approximately accurate result can be obtained.

In the following cases, in which the refraction has been worked out in more than one part of the fundus, the results are given; generally, all parts of the eye share in the change in form, but it is most marked in the region outside the yellow spot. The observations have not been numerous enough to form any conclusion as to the constancy of the direction and degree of change produced by the altered muscular conditions, but they show that the change does exist, and that it is often of considerable extent. These cases are only selected ones out of many others observed, in which the same change was noted, but its degree not recorded.

The sequence of events in the production of the change in the eye is, first, paralysis, or what amounts to the same thing, the sudden onset of insufficiency of one external rectus; next, a change in the curvature of the cornea, a flattening of its horizontal meridian, shown by the presence of astigmatism according to rule; at the same time a change in the curvature of the sclerotic, due to altered traction on its outer surface. This results in changes more or less seriously affecting the position of the fovea, and its accurate adjustment to the rays of light focussed on it. Amblyopia, of greater or less degree, would be a consequence of this change in the curvature or adaptation of the fovea; a change in this part of the eye, too small to be measured in dioptries, might yet be productive of considerable amblyopia. Amblyopia so produced is made permanent and irrecoverable by want of use of the channels of communication, and of the visual centres, or by a failure of their complete development, if the squint has begun before the habit of proper central fixation has been acquired in the squinting eye.

Convergent Squint of Left Eye after Fits in Infancy. Change in Shape of the Globe.

Eliz. M. came to Mr. Gunn's clinic, at Moorfields, in February, 1894.

She was aged 29 years. She had fits in early infancy, before she was a year old; she did not squint when she was born, but did so suddenly after the fits. The L. always turned in very much, but the R. was straight; eight years ago she had tenotomy of both internal recti in the country; both eyes were operated on many times.

There is now some divergence of the L.; both internal recti fail to act, either in lateral or converging movements.

V. R., 6/6 Hm. 2·5 D; V. L., not improved. R., shadow test, no As.; L., shadow test.

Nasal side.	At. Y. S.	Templ. side.
Like Y. S.	$\begin{array}{c} +2 \\ \\ \text{---} \text{---} +3 \\ \end{array}$	$\begin{array}{c} +1 \\ \\ \text{---} \text{---} 2 \\ \end{array}$

Ophth. no astigmatic crescent.

Old Paralysis of L. Ext. Rectus. Conv. Strabismus. Change in Shape of Globe.

Geo. D., 12, came to Mr. Gunn's clinic, at Moorfields, in January, 1895.

No history was obtainable.

Definite weakness of L. ext. rectus; it can with difficulty be made to go out just beyond the middle line; its fixation becomes nystagmoid in attempting to look to L. Under atropine the movements are the same.

Under atrop. R. 6/18. c + 1 D = 6/6. L. 6/36 not improved.

	Y. S.	Templ. side.
Refr. of L.	$\begin{array}{c} +1 \\ \\ \text{---} \text{---} +2 \\ \end{array}$	$\begin{array}{c} -3 \\ \\ \text{---} \text{---} 2\cdot5 \\ \end{array}$

$$\begin{array}{c} \text{Refr. of R.} \quad \begin{array}{c} +1 \\ | \\ \hline +1.5 \end{array} \end{array}$$

Same in other parts of fundus.

Convergent Squint with Change in Shape of the Globe.

Charlotte D., aged 10 (Vict. Hospl., 2433.)

She began to squint at 3 years of age, after a series of fits; she had glasses at $3\frac{1}{2}$ years of age; has worn them constantly.

January, 1895. There is now moderate convergence of the R.; external rotation is less complete than that of the L.; the R. is permanently on a lower level than the L.

V. R., fingers at 1 ft. not improved. V. L., 6/9.

Shadow test under atropine.

Temporal side.	At Y. S.	Nasal side.	
R. $+3.5$	$+3.5$	L. $+5$	
$\begin{array}{c} \\ \hline +3 \end{array}$	$\begin{array}{c} \\ \hline +6 \end{array}$	like Y. S.	$\begin{array}{c} \\ \hline +5.5 \end{array}$

Convergent Squint. Change in Shape of Globe.

Elsie M., aged 12. (Vict. Hospl., 2440.)

Began to squint suddenly in childhood; had glasses 12 months ago.

There is moderate convergent squint with R. now, but no marked defect of movement, and no difference in the two sides.

V. R., 6/18; V. L., 6/12.

Under atropine.		Shadow.	
R. templ. side.	At Y. S.		Emm.
-2.5	-2.5		
$\begin{array}{c} \\ \hline 0 \end{array}$	$\begin{array}{c} \\ \hline +3.5 \end{array}$	L.	$\begin{array}{c} \\ \hline +3 \end{array}$

Convergent Squint.

George McG., aged 9, came to Mr. Nettleship's clinic, at Moorfields, in February, 1895.

He had squinted since whooping cough at 3 years of age; he had the cough very badly at the time; he had glasses two years ago.

There was still moderate squint.

V. R., 6/36, not improved; V. L., 6/12 c + 4 D = 6/6.

Under atropine. Shadow.		
Templ. side.	Y. S.	Nasal.
+3 	+3 	+3 
+4	+6	+6

Convergent Squint.

Ed. W., 10, was brought to Mr. Gunn's clinic, at Moorfields, in March, 1891.

He had brain fever at 14 months, but it is not known when he first squinted, as his parents are dead. He has squinted ever since he was 3 years old.

There is a high degree of convergent squint; it is not easy to determine the refraction, as he keeps his eyes closed. Was given + 4.5 D. sph. to wear.

November, 1891.—Tenotomy R. Int. Rect.

March, 1895.—Four years later. Outward movement good; no squint.

	Templ. side.	Y. S.		L.	
Refr. R.	+7	+8		+6	
	— —+7	— —+10		— —+8.	

Early Strabismus producing Deformity of the Eye.

Antoinette S., aged 6.

She squinted at 9 months of age.

Mod. convergent squint with R. E.; outward movement can be obtained.

V. R., 6/60 c + 4 D = 6/9; V. L., 6/60, not improved. The refraction varies considerably in various parts of the fundus, but she is too unsteady to determine it at all accurately.

Conv. Strabismus. Alteration in Shape of Globe.

Annie H., aged 11. (Metrop. Hospl.)

January, 1895.—Fell out of a barrow, at æt. 4, on her head; the squint came on after; it was not noticed before.

R., high degree of convergence about 45° , with upward deviation also.* Movements are full.

V. R., 6/60; V. L., 6/18, no improvement.

Under Atropine. Shadow.

To templ. side of R.		
-1	R.	L.
+5.	$\begin{array}{c} \diagup +2 \\ \diagdown +6 \end{array}$	$\begin{array}{c} +3.5 \\ +4 \end{array}$

Ophth., nil. No crescents.

Internal and Upward Deviation of one Eye; Astigmatism with Oblique Meridians.

Wm. H., 7, came to Mr. Gunn's clinic, at Moorfields, February, 1895.

R. convergent since birth; has had glasses elsewhere two years ago.

Has high degree of convergent squint in R. E., slight upward deviation also.

R., fingers at 1 m.; L., 6/12 + 2 D = 6/6.

R.	L.
$\begin{array}{c} \diagup +2 \\ \diagdown +4 \end{array}$	$\begin{array}{c} +3 \\ +3.5 \end{array}$

Inward and Upward Squint, with Obliquity of Axis of the Astigmatism.

Edith S., aged 9. Convergent squint for many years. (V. H., iii, 431.)

R. deviates 15° in and 10° up. On covering the L. and making the R. fix, the secondary deviation of the L. is in and down.

Under atrop. R., fingers at 2 m.; L., 6/18 c + 1 D = 6/6.

Shadow.	
R. E.	$\begin{array}{c} \diagup -0.5 \\ \diagdown +0.5 \end{array}$

I am indebted to Messrs. Nettleship and Gunn for permission to use their cases.

* The puncta lachrymalia being equal in height, the cornea of the R. E. is entirely above the punctum, when the L. E. fixes a point straight in front; when the R. E. fixes, the L. E. is covered to the edge of the pupil by the punctum.

SEROUS CYCLITIS.

By N. C. RIDLEY, *late Acting Curator, R.L.O.H.*

THIS disease is known also by the names serous irido-cyclitis or serous uveitis, according as the anterior part or the whole of the uveal tract may have been involved, and formerly was frequently termed descemetitis or keratitis punctata, from the presence of dotted opacities seen when light is transmitted through the cornea.

As its anatomical characters have hitherto been very scantily worked out, I venture to think that a record of a series of cases which I have recently had an opportunity of observing, and in several instances microscopically examining, may be of interest.

The following is a list of causes of this disease given by authors, examples of many of which will be found in the accompanying series:—

1. Syphilis.—*a.* Congenital.
 b. Secondary acquired.
 c. Tertiary. Gumma of the ciliary body.
2. Sympathetic trouble after injury to the other eye.
3. Traumatism.
4. Gonorrhœa.
5. Uterine disease.
6. Rheumatism.
7. Gout.
8. Diabetes.
9. Intra-ocular growths involving the ciliary region, including tubercle.
10. Spreading of inflammation from neighbouring parts.
11. Following acute specific fevers.

Besides those due to the above causes, many cases occur in which no cause can be found to which they can be definitely attributed, and these are called idiopathic.

In spite of wide difference of etiology, most of the cases presented many points in common in their clinical history and course, and also in histology where opportunity offered.

In all the well-marked cases there was great injection of the episcleral vessels, especially at the sclero-corneal junction, accompanied by more or less pain, ciliary hyperæsthesia, and loss of vision. On examination, the media were hazy and the vitreous was seen to contain floating opacities. The iris escaped in most of the cases, but, when involved, exhibited the ordinary signs of iritis, viz., alteration of colour, dulness of lustre, sluggish reaction, and contracted pupil. In some instances a total or partial paralysis of the ciliary muscle was present, and in others slight photophobia and lachrymation.

In the table below, to avoid repetition, I have only put those symptoms that were especially marked or at all exceptional.

On examining with focal illumination a number of greyish dots were noticeable on the cornea, arranged roughly in the form of a triangle, with the apex at the centre and base downwards, but frequently distributed over the whole of the surface, and when large looking like round specks of grease. On direct illumination with a powerful convex lens, the opacities could be seen to be on the posterior surface.

All the cases which continued under observation for some time were subject to occasional exacerbations of pain, ciliary tenderness, and redness, with a tendency to increased intra-ocular tension, the latter sometimes rising to T. +1 or +2.

Those with high intra-ocular tension could be divided into two groups, in one of which there was an anterior chamber shallower than usual, with dilated pupil as in primary glaucoma, and the second in which the anterior chamber was increased in depth, with a pupil of about the normal size. The anatomical reason for this difference

was apparent on examination of specimens of each group which were removed, and will be referred to later on.

The decrease in acuity of vision spoken of, was attributable in the earlier stages to the haziness of the media, but subsequently to the increased tension and to accompanying choroido-retinal changes.

There are many papers on record referring to examples of this disease occurring from various causes. Brailey* mentions an instance where an attack of cyclitis seemed to replace an acute attack of gout in a gouty patient. Trousseau, Saulay, Cohn, and De Wecker† record cases apparently dependent on uterine disease or gonorrhœa, and attribute it either to the micro-organisms or their products getting access to the blood, either at the menstrual period in the first case, or after some special irritation as of catheterisation in the second.

* Trans. Oph. Soc., vol. x, 98.

† References in lit. at end.

No.	Patient.	Age.	Duration of attack before treatment.	Eye affected.	Vision.	Symptoms, &c.
1	Female	20	A few days.	L.	L. V. = 2/60. Not improved by glass. R. V. = 6/6 J. 1. No Hm.	Very marked universal "keratitis punctata." Deep A. C. Much ciliary injection. Pupil active. Media hazy. Much pain. T + 1. Ciliary tenderness. Very anæmic.
2	Female	26	Several months.	L.	R. V. normal. L. diminished.	The appearance at first was very like that of a phlyctenule, the swelling and injection being more marked at a localised spot on the outer side. Later symptoms as in Case 1.
3	Female	20	?	Both	..	Marked K. P. Deep A. C. Ciliary injection, &c.
4	Male	20	Present attack 2 months.	L.	R. normal. L. = 6/36 J. 15.	Much K. P. Deep A. C. Pupil active. Ciliary injection, &c., T + 1.

History.	Treatment and course.	Result.	Remarks.
Two months before, she had knocked the eye accidentally, but had not noticed anything wrong until a day or two before attending. She had never had any serious illness, and had no menstrual trouble. No family history of tubercle. Her father gave a very indefinite history of syphilis when a young man.	The anæmia was treated with arsenic and iron, and atropine and dark glasses were ordered. The anæmia improved, but the eye symptoms got worse till V. = P.L. only. Mercury and iodide of potassium in small doses were then tried for a time, and the eye seemed to improve, but her general health suffered, so they were discontinued. Shortly after she went away into the country.	A year after the beginning of the attack the condition is: R. eye has remained well throughout. L.V. = 2/60. Tn. No ciliary injection nor tenderness. A.C. normal. Cornea perfectly clear. Pupil active, secondary reaction > primary. Vitreous contains fibrous tissue. There is slight paresis of L. ext. rectus.	Although there were no other signs of congenital syphilis, I think the partial improvement under iodide of potassium, and the appearance of paresis of the ext. rectus rather point to this as the cause. It was remarkable that the R. eye escaped; it may be that the slight injury to the L. was the determining factor in the case.
The eye first gave trouble soon after the birth of her first child, about a year after marriage, at which time she had a bad sore throat.	Mercury, iodide of potassium. Atropine, dark glasses. There were several relapses.	Disease came to an end, but vision of left eye was permanently damaged.	
? Congenital syphilis; eyes had been weak since childhood. Had "erysipelas and rheumatic fever" 2 years before. Inflammation began in both almost simultaneously about 3 years before admission. Recovery apparently took place, as also from a second attack later. They have recently become inflamed again.	Weak atropine solution. Dark glasses. Repeated paracentesis of A.C.	Some improvement.	
Two months before admission some spots were first noticed in front of L. eye. No change had taken place during that time. No history of syphilis, &c. About 11 years before patient received a blow over L. eyebrow, and saw spots for some time afterwards.	Same as Case 3.	Slight improvement.	Still under treatment.

No.	Patient.	Age.	Duration of attack before treatment.	Eye affected.	Vision.	Symptoms, &c.
5	Female	19	..	L.	P.L. only in affected eye.	Symptoms very acute. Only very fine and slight K. P. A. C. fairly deep in centre. T + 1. Very little reflex.
6	Male	26	Three weeks.	R.	R. = P.L.	Acute pain, redness, and tenderness. Slight K. P. Shallow A. C. Small wound at inner sclero-corneal junction with prolapse of iris. Numerous posterior synechiæ.
7	Female	8	Thirty-three days	L.	No P.L. in L.	Cornea clear. A. C. shallow above, deep below. Whole eye filled with a wash leather coloured mass, with numerous blood vessels on it. Tn.
8	Male	24	Six weeks.	L.	L. = P.L.	Cornea very hazy. Marked K. P. A. C. rather deep, and contains a large quantity of inflammatory material. T +.
9	Male	8	A few hours.	L.	..	Iris prolapsing through corneal wound.
10	Male	24	A few hours.	R.	R. = fingers at 30 cm.	A. C. shallow.
11	Male	30	..	L.	..	Localised swelling of outer ciliary region. Slight K. P. Iritis. A. C. normal. T +, tender.

SEROUS CYCLITIS.



History.	Treatment and course.	Result.	Remarks.
No history of rheumatism, tubercle, or syphilis. Onset was sudden, patient thinking she had got a lash in it. She then found it was blind. ? Injury 7 years before.	A new growth was diagnosed and the eye removed.	..	Specimen, Figs. 7 and 8.
Three weeks previous to admission patient was struck in R. eye.	Eye removed.	..	Microscopically there were appearances of the kind mentioned in Group I. below.
Patient received a blow in the eye with a skipping rope.	New growth was diagnosed and the eye removed.	..	The vitreous chamber was found to contain new formed fibrous tissue, whose contraction had caused the deepening of the A.C. in the lower part, and total detachment of retina.
Patient was struck in the eye with a fork.	Eye removed.	..	Condition of the kind mentioned in Group II. below.
Patient was struck in the eye with a peg top.	Fifteen weeks later the eye was removed, as it had afterwards become inflamed and painful.	..	Specimen, Fig. 9.
Wounded in ciliary region with a piece of steel.	The eye apparently got well, but after a week or two became painful, and the vision failed. Eye removed.	..	Inflammatory material in the meshes of the suspensory ligament.
History of syphilis some years before.	Diagnosed gumma of ciliary body. Treated with iodide of potassium and atropine.	Recovery.	

No.	Patient.	Age.	Duration of attack before treatment.	Eye affected.	Vision.	Symptoms, &c.
12	Female	50	Present attack a few days.	R.	< 6/60. L. = 6/6.	Fine diffuse K. P. Much ciliary injection. A. C. deep. Iritis and many posterior synechiæ.
13	Male	26	..	R.	Nil	Central part of cornea ulcerated. Pannus above. Lower part clear. A. C. very deep. T +.
14	Male	35	Probably only a day or two.	Both	R. } = 6/6 J. 1, L. } with correction.	Fine general K. P. in both. No other symptom nor sign whatever
15	Male	15	Probably only a day or two.	Both	R. } = 6/6 J. 1, L. } with correction.	Fine general K. P. in both. No other symptom nor sign whatever.
16	Male	4 months	..	R.	Nil	Cornea very hazy. No A. C. T + 2. Pupil occluded.
17	Male	14	Several years.	R.	Nil	Cornea clear, but wounded, A. C. contained blood.
18	Male	19	Several years.	R.	Nil	Cornea opaque. Ciliary staphyloma. Lens opaque and calcareous lying in A. C.

History.	Treatment and course.	Result.	Remarks.
Patient had had many attacks of what was said to be rheumatic iritis. No other history of importance.	After pupil had been dilated as much as possible, weak atropine and dark glasses were ordered.	Considerable improvement.	
The eye was said to have been affected since infancy. Chronic keratitis from granular ophthalmia.	Eye removed.	..	Pigmented cells and leucocytes in spaces of Fontana.
Patient attended at the hospital to have his refraction corrected. He admitted that he was then suffering from gonorrhœa.	Patient went elsewhere for treatment and has not been seen since.		
Like Case 14, he attended at the hospital to have his refraction corrected. He was very anæmic. There was no history of congenital syphilis, gonorrhœa, nor tubercle.	Atropine, gr. $\frac{1}{4}$ to $\frac{3}{4}$, prescribed twice a day. Dark glasses. Iron administered.	Still under treatment.	
Mother first noticed something wrong with the eye 19 days before. No history of importance could be obtained.	New growth was diagnosed, and the eye removed.	..	On examination, changes due to cyclitis were found. The anterior part of the uveal tract was chiefly affected.
Wound 12 days previously. The eye had been accidentally found to be blind 4 years previously. There was no history of injury preceding the blindness, nor of any general disease to account for it.	Eye removed.	..	Examination showed blindness was due to old cyclitis. Specimen, Figs 1 and 2.
Eye accidentally found to be blind 5 years before. Had recently become painful. No history of injury, &c., to be elicited.	Eye removed.	..	Atrophy of whole of uveal tract. Several strong fibrous bands were found traversing the vitreous chamber in various directions. Total detachment of retina.

No.	Patient.	Age.	Duration of attack before treatment.	Eye affected.	Vision.	Symptoms, &c.
19	Male	6	..	Both. L. worst	L. = nil.	Slight K. P., A. C. shallow. The vitreous contained a flocculent mass.
20	Female	?	..	Both	..	Marked K. P. Deep A. C. T+.
21	Female	25	..	Both	< 6/60	Marked diffuse K. P. Deep A. C. T+.
22	Female	6 mnths.	..	L.	Nil	Cornea hazy in centre, bulges forwards considerably. T+. Painful.
23	Female	3	Three days.	L.	..	A. C. deep Yellow reflex. Painful. Slight K. P.
24	Male	42	Six weeks.	R.	R = P. L. only. L. normal.	A. C. deep. Large spots of K. P. Much injection. T - 1. Lens opaque.

History.	Treatment and course.	Result.	Remarks.
First one eye was affected, then the other. No history bearing on the affection could be obtained.	L. eye removed.	..	Showed the appearances mentioned in Group I. below.
Patient suffered from endometritis, and it was noticed that the two affections varied coincidentally in intensity.	After the uterus was curetted, the eye symptoms improved, and there was marked diminution of intra-ocular tension on more than one occasion.		
Patient says that her eyes are most painful at about the menstrual periods, which are prolonged, with somewhat excessive discharge. No other history to be obtained.	Atropine, gr. $\frac{1}{4}$ to $\frac{3}{8}$, and dark glasses ordered.	Patient is slowly improving under treatment.	On examination by an obstetric physician, nothing abnormal was found in the pelvic organs.
Said to have been affected from birth. No history of causation could be obtained.	Eye removed.	..	The changes in the cornea were secondary to the cyclitis. The spaces in the suspensory ligament were considerably obstructed, it having very much the appearance of a membrane. Specimen, Fig. 6.
Supposed to have been perforated by steel fragment. Iritis 3 days later.	Atropine and bandage. Eye removed 19 days after injury.	..	No F.B. found. Specimen, Fig. 5.
Eye was struck by a piece of stone.	Eye removed.	..	Appearances mentioned in Group II. below. Specimen, Fig. 4.

EXAMINATION OF EYES AFTER REMOVAL.

General Characters.

Group I. Here the anterior chamber is shallow, the lens and iris are pushed forwards, and the pupil is dilated. In most cases the iris is adherent to the cornea for a greater or less distance at the periphery. In the earlier stage of the disease the circumlental space is somewhat diminished by swelling of the ciliary processes, but later on it is again increased, owing to the atrophy of the processes from the rise of intra-ocular tension.

The aqueous and vitreous chambers contain an albuminous fluid which is coagulated by the ordinary hardening reagents, and can be recognised from the fact of its taking a deeper stain with eosin than does the celloidin in which the specimen is embedded.

On microscopic examination, the swelling of the ciliary body and processes is seen to be due to injection of their vessels, with exudation of lymph and leucocytes. There is also great proliferation of the epithelial cells, not only of the pars ciliaris retinæ, but of the hexagonal pigment layer beneath, many of them being shed and, together with leucocytes, found loose in the vitreous chamber (Fig. 1). The dulness of the media and opacities in the

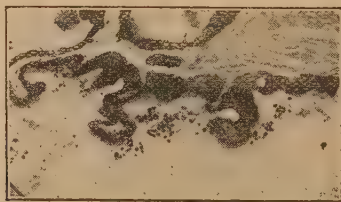


FIG. 1.

vitreous observed clinically are, no doubt, due to these, together with the exuded lymph.

On looking at the suspensory ligament it can be seen that many of these epithelial cells, and some of the leuco-

cytes, having been carried forward with the lymph stream, have become entangled in the meshwork between the fibres constituting that structure. In consequence, additional obstruction has been caused to the exit of the intra-ocular fluid from the vitreous into the posterior chamber, through the already diminished circumlental space (Fig. 2).



FIG. 2.

The tension in the vitreous chamber has then evidently risen, and the lens been pushed forwards, and subsequent events have taken place as in ordinary primary glaucoma. It will be evident that the process would be exaggerated, and also more rapid, if, at the same time, there were an increase in the volume of intra-ocular fluid secreted.

Group II. In this group the chief cause which leads to all the other anatomical differences is, that there is either very little or no proliferation of the epithelium on the ciliary processes. Consequently the only solid bodies thrown into the lymph stream through the vitreous are leucocytes, and these can readily pass through the meshes of the suspensory ligament under ordinary conditions. At times, however, even these are stopped, as may be seen in Fig. 3. These and other inflammatory products reach the posterior chamber, and are carried thence through the pupil into the anterior chamber. Here many of them being washed against the posterior surface of the cornea, and being more or less sticky, either from their own natural property or from the accompanying albuminous exudation, adhere, and one having become attached,

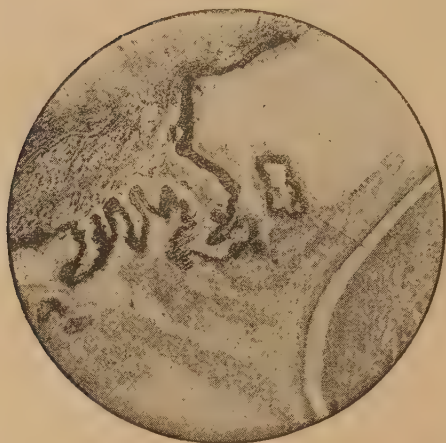


FIG. 3.

others are attracted to adhere to it, and so little isolated heaps are formed and not a continuous sheet. These give rise to the dotted opacities on the cornea (Fig. 4).



FIG. 4.

By far the greater number of the leucocytes, however, are carried on in the lymph stream towards the angle of the anterior chamber, and here some of them may pass through the spaces of Fontana in the ligamentum pectinatum, and so get removed. But many of them do not escape, but becoming entangled in this filter, whose meshes are much finer than those of the suspensory ligament, cause a gradually increasing obstruction, accompanied by inflammation in that neighbourhood (Fig. 5). This inflammation I regard as an entirely secondary pro-

cess, and think that the absence of circumcorneal injection in the earliest stages of the disease, even when punctate deposits on the back of the cornea are manifest, bears out

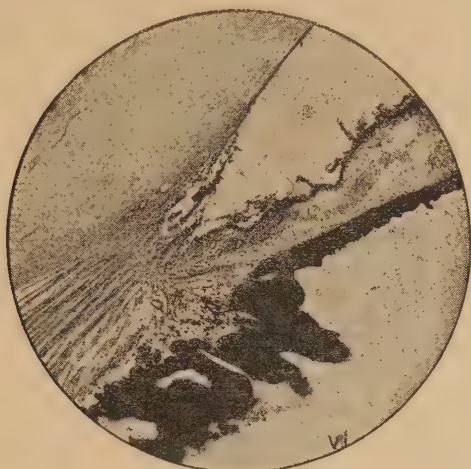


FIG. 5.

this point (*vide* Cases 14 and 15). In this connection I would draw attention to the fact that whilst the ciliary body and processes are supplied by the posterior or large ciliary arteries, the ligamentum pectinatum and sclero-corneal junction receive the greater part of their blood from the anterior ciliary arteries.

The primary obstruction occurring here at the outlet of the anterior chamber, pressure is exerted on all sides of that cavity, and so the iris and lens are thrust backwards, the angle is widened, and the whole chamber increased in depth.

Pigmented cells may occasionally be found in the deposits on the back of the cornea, these may be small ones that have passed through the meshes of the suspensory ligament, or may be derived from the anterior part of the ciliary body which lies in the posterior chamber. They are, however, never abundant since, as I have said above,

in this group of cases there is very little proliferation of epithelium.

In group I. where the primary obstruction is at the suspensory ligament, leucocytes can at first pass through that structure, and some of these adhering to the back of the cornea give rise to small masses just as in the second group; but these masses are never so large as those which occur in the latter, where the primary obstruction is in the spaces of Fontana, and where the anterior chamber is deep.

In the examination of an eye that has been blind for some time from secondary glaucoma of the kind spoken of in Group I, it is at first rather difficult to trace the sequence of events, as the lens and suspensory ligament are frequently in their normal situation. This I consider to be due to the following circumstances. The lens and iris are at first pushed forwards, and the iris becomes congested and adheres to the cornea at its periphery, obliterating the angle of the anterior chamber, thus shifting the locus of the obstruction more forwards. After the tension has been raised for some time, atrophy of the ciliary processes takes place, and the circumlental space is increased, and so the causes working at the original site of obstruction are diminished. In consequence the

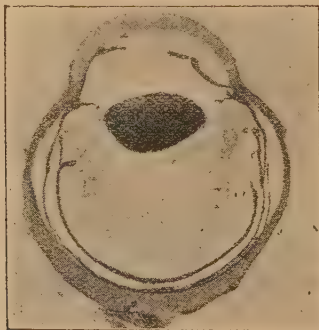


FIG. 6.

accumulation of pressure occurs as in group II. in the anterior chamber; but the adhesion of the iris to the cornea prevents the former structure being thrust back again and the anterior chamber deepened, therefore the lens is pushed back by itself to its original situation, and we have as a result, a deep posterior and shallow anterior chamber as is shown in Fig. 6. In some instances too, where the iris has not been firmly adherent all round, the irido-corneal angle may be seen to have been re-opened in places. This fact is proved by the angular shape of the iris section. In other instances, as in Fig. 7, the anterior

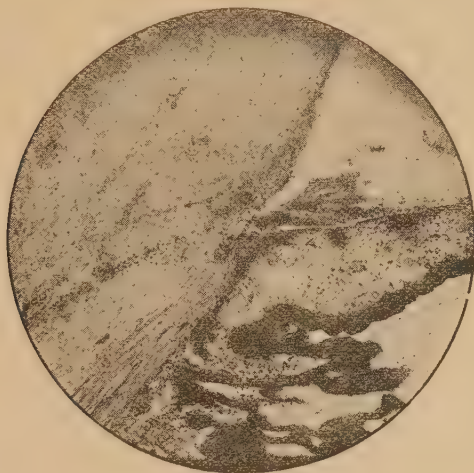


FIG. 7.

chamber becomes deepened, although the iris is still adherent at the extreme periphery, and the angle effectually occluded. The deepening of the posterior chamber and recession of the lens are also conducted to by the diminution of secretion following atrophy of the ciliary processes and compression of the retinal vessels and consequent lowering of tension in the vitreous chamber.

Though some authors distinguish between the cyclitis which is serous, and that in which the exudation is plastic,

no distinct line can be drawn between the two, as in all cases in which the disease has persisted for a time the exuded fluid becomes plastic, even though it were partly serous at first. Cyclitis in this respect follows the same course as iritis.

Most of the later anatomical changes in the eye in this disease are due to this fact. It is owing to the contraction of this plastic material that another alteration in the anterior chamber occurs in old standing cases of Group II. This newly organising tissue is chiefly found in the circumlental space, and so on contraction draws the root of the iris backwards, and laterally widens the anterior chamber; and being attached to the periphery of the retina behind, detaches that structure in a circular fold at the ora serrata (Figs. 6 and 8). Probably



FIG. 8.

this contraction too in Group I. is instrumental in the retraction of the lens and deepening of the posterior chamber before mentioned.

I have said very little about the increased secretion of intra-ocular fluid which occurs in the earlier stages of this disease, accompanied by changes in the ciliary body and processes, and this no doubt has a great causative

influence in the variations of tension noted from time to time; but, as may be seen from what has been described above, it is only one factor in the chain of processes tending to the common end—glaucoma.

With regard to the collections of leucocytes and lymph on the posterior surface of the cornea, changes may occur in the cubical endothelium between them and Descemet's membrane, as has been pointed out by many observers,* but it is not the rule, and this layer is normal at the commencement of the deposit, and is still healthy if the deposit be early washed away as these observers maintain, and the cornea may even in the most marked cases become eventually quite clear.

H. Snellen† describes these masses as being chiefly composed of colonies of short bacteria, and speaks of the inflammation of the uveal tract as being secondarily caused by the toxins produced by these micro-organisms, though it is difficult to understand how these get into the anterior chamber of the unwounded eye, if not by the natural way of the secretion of intra-ocular fluid from the ciliary body, &c.

I have attempted to make several cultivations from the fluid of the anterior chamber in cases that were being operated upon, but with negative results on each occasion.

Brailey‡ and others have described specimens of cyclitis with a large pigmented mass of exudation on the vitreous surface of the ciliary body. Sections of one of my specimens showed a similar nodule due to a remarkably increased proliferation and accumulation of the pigmented epithelial cells at that spot, which microscopically might have been taken for one of the melanotic neoplasms that sometimes occur in this neighbourhood. Treacher Collins§ has pointed out that this, occurring as it does all

* Fuchs, Lawford, and others.

† *Vide Ref.*

‡ Trans. Oph. Soc., vol. ii, 1882.

§ *Vide Ref.*

round the ciliary region at the junction of the plicated and non-plicated part of the ciliary processes, is due to hypertrophy of the glands that he has described in that situation. The appearances on careful examination entirely coincide with such a hypothesis.

In all the cases of long standing that I examined, various degenerative processes had occurred in both the cornea and lens, rendering them more or less opaque. Some of these were of a very interesting nature, but were of forms not limited to this disease alone.

Treatment.—It is beyond the scope of this paper to enter fully into the subject of treatment, but the following points may be mentioned.

From a consideration of the causes of obstruction it will be obvious that, except perhaps now and then in cases of Group I, removal of a larger or smaller segment of the iris in the operation of iridectomy would be of no avail, either to stay the progress of the inflammation or to permanently reduce the intra-ocular tension; and in fact in consequence of the organisation of inflammatory pro-



FIG. 9.

ducts near the irido-corneal angle in the process of repair, more obstruction may be caused and so the condition rendered worse. Another danger after iridectomy is from the blocking of the spaces of Fontana by pigmented epithelial cells of the iris which may proliferate at the site of section and be set free. (Fig. 9.)

Paracentesis.—It seems reasonable to suppose that the reduction of tension can best be effected by repeated paracentesis of the anterior chamber, so evacuating inflammatory products with the intra-ocular fluid. Probably the paracentesis should be done in front of, rather than in the sclero-corneal junction, so avoiding the extension of the inflammation at the site of the puncture to a part already damaged. The operation with proper precautions is quite free from danger. An objection to paracentesis* in normal eyes is that the aqueous humour secreted immediately after puncture contains coagulable material; but that fact is of comparatively little importance in this disease, where the intra-ocular fluid is previously of that nature.

It also seems clear that in some cases, the use of eserine is indicated, as for instance in the early stage of those in which the original obstruction is in the circumferential space; but it should not be persisted in if there be signs of the inflammatory process spreading to the iris, and it must be remembered that this drug produces congestion of the ciliary processes.

In the cases in which the anterior chamber is deep, a weak mydriatic (Atropine gr. $\frac{1}{4}$ to $\frac{3}{4}$ j., or even less) may be circumspectly used, a careful watch being kept upon the tension. The objects of this treatment being to paralyse the ciliary muscle and to dilate the pupil and prevent the formation of posterior synechiæ. I have seen exclusion of the pupil and "iris bombé" result in one case in which this had not been done.

The main essentials in treatment are to give as com-

* R. Græf, *vide* Ref.

plete rest as possible, *e.g.*, dark glasses, and the avoidance of near work, combined with attention to any general disease concerned in the causation.

The prognosis, unfortunately, at present is bad, owing to the great tendency to recurrence, and in nearly every case the vision is permanently damaged to a greater or less degree.

I desire to express my thanks to Messrs. Couper, Tweedy, Nettleship, Lang, Silcock, Morton, Hodges, Kenneth Campbell, and Haydon, to whom I am indebted for permission to examine and refer to cases, and to Mr. Devereux Marshall, for great assistance in the photography of the specimens.

DESCRIPTION OF FIGURES.

1. Ciliary processes, showing proliferation and shedding of pigmented cells. $\frac{1}{4}$ in. obj.
2. Spaces in the suspensory ligament blocked by pigmented cells and leucocytes. $\frac{1}{2}$ in. obj.
3. Spaces in suspensory ligament blocked by leucocytes chiefly. Ciliary processes swollen. $\frac{1}{4}$ in. obj.
4. Rounded masses on posterior surface of cornea. $\frac{1}{4}$ in. obj.
5. Spaces of Fontana blocked by leucocytes. $\frac{1}{4}$ in. obj.
6. Lens retracted to normal position in later stage. Detachment of retina in fold. 2 in. obj.
7. Partial adhesion of root of iris, deepening of anterior chamber later. $\frac{1}{4}$ in. obj.
8. Detachment of retina in folds at ora serrata. $\frac{1}{2}$ in. obj.
9. Spaces of Fontana blocked by pigmented epithelial cells from the iris after iridectomy. $\frac{1}{4}$ in. obj.

LITERATURE.

For an account of the literature on this subject, and the opinions of some former authors, I would refer to Mr. Lawford's paper in the Ophthalmic Hospital Reports for 1889, p. 298, *et seq.*

The following more recent papers may be consulted :—

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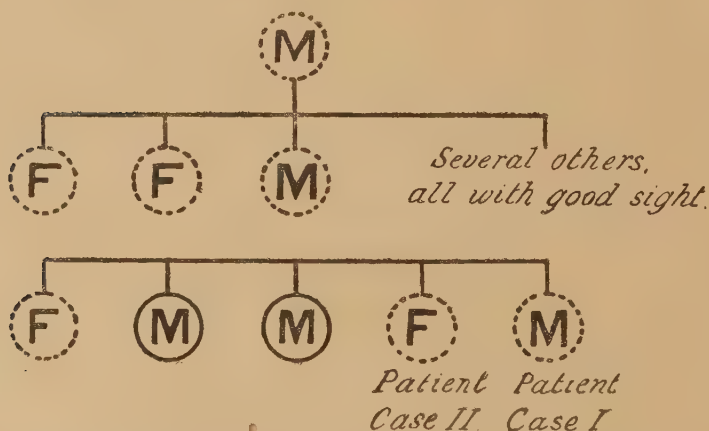
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TWO CASES OF HEREDITARY CONGENITAL NIGHT-BLINDNESS.

By W. TILLINGHAST ATWOOL,

Ophthalmic Surgeon to the Torbay Hospital; late Clinical Assistant, Royal London Ophthalmic Hospital.

CASE 1.—Mr. H., a young man, has never been able to see his way clearly at night. When going out after dark he has to exercise great caution in order to avoid knocking against other people, and objects in his path. He says that this peculiarity has existed in different members of his family for at least three generations. Patient has two sisters and two aunts who are night-blind. Both his father and grandfather were similarly affected, and the former, who was a naval officer, on more than one occasion accidentally walked overboard from the bridge at night.



Representation of the heredity in a family in which night-blindness occurs.
M. male; F. female. The dotted circles indicate night-blindness.

Patient's vision is 6/6 in each eye, and accommodation is normal. The visual fields are fully normal, both for white and

colours, when taken by diffuse daylight; on lowering the illumination they are very much contracted.

Direct vision, however, does not appear to be excessively diminished on lowering the illumination, the diminution varying in much the same ratio as the author's under similar conditions.

Appreciation and discrimination of colour are perfect.

With the ophthalmoscope there is nothing abnormal to be seen. There is physiological cupping of the discs, and pulsation can be seen in some of the retinal veins.

Patient's hair is black; his irides dark brown.

CASE 2.—Miss H. is a hospital nurse, and sister of the above. She complains of the same difficulty of seeing in a bad light, insomuch that she is afraid to venture out of doors alone after dusk.

The right eye was operated upon for internal strabismus some years ago.

On examination she was found to be hypermetropic; the vision with black types being—

R. V. = 6/18; $\bar{c}$ + 1.5 D. sph. = 6/12.

L. V. = 6/6; $\bar{c}$ + 1 D. sph. = 6/6.

With Bjerrum's grey types, No. 1—

R. V. = 6/60; L. V. = 6/12 iii (normal = 6/9).

With grey types, No. 2—

R. V. < 6/60; L. V. = 6/12 ii (normal = 6/12).

The visual fields are quite normal, except that those for green are very slightly and uniformly contracted.

Appreciation and discrimination of colour are perfect.

On ophthalmoscopic examination the pupils were active, the media clear, the discs and retinal vessels quite normal. The ground of the fundus was dark, and looked granular, but there was no pigment to be found in the retina, neither were there any white spots to be seen either at the macula or elsewhere, such as Mr. Nettleship describes in some of his cases. The choroidal vessels were very apparent.

The first patient is somewhat deaf in his right ear, a condition which becomes greatly aggravated when he takes cold. The deafness has existed for some years, but

was not congenital, and appears to be merely secondary to a throat affection. The second patient had no defect of hearing.

In neither of these cases is there any nystagmus, as has been shown to exist in some previously recorded cases.

On comparing the family history with that given in other instances, it will be seen that there is no definite plan of heredity. For instance, in Mr. Nettleship's cases it was only the males who were affected, and they inherited the condition through their mothers. In Mr. Morton's cases also atavism was marked, and no females were affected. Mr. Morton's patients had contracted visual fields, and he also noted that they were all fair-haired. In both of my patients the hair is dark, and, as has been stated above, there is no lack of pigment in any part of the uveal tract. There is no history of further deterioration in the defective vision of any member of the family to which my patients belong.

The following is a list of some of the previously recorded cases, for which, together with the notes of the examination of Case II, I have to thank my friend Mr. N. C. Ridley.

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Note.—It can hardly fail to strike anyone reading the above list, that the words nyctalopia and hemeralopia appear to be used almost indiscriminately by different authors, with the same meaning—night-blindness. I have myself avoided the use of either term, but I should like to refer those interested in the point to two papers in these Reports, by W. A. Greenhill and J. Tweedy respectively, entitled “On the Meaning of the Words Nyctalopia and Hemeralopia,” *Ophth. Hosp. Reports*, vol. x, 284—292 and 411—436.

NOTES OF A CASE OF THROMBOSIS OF THE CENTRAL
ARTERY OF THE RETINA, WITH ACUTE GLAUCOMA AS
A SEQUEL.

By N. C. RIDLEY, *late Acting Curator, R.L.O.H.*

G. P., aged 57, a strong healthy-looking man, who had recently completed 40 years' service in the Royal Navy, first came under my observation on February 19, 1895, complaining of pain and loss of vision in the left eye.

The history of the present affection was somewhat indefinite, but he stated that to the best of his knowledge up to two months previously both eyes were well, although the right was always stronger than the left. At that time he one day felt a sudden attack of pain in the left eye, which he described as of a pricking character, as though he had some sand in it, and then found that the vision was much worse than that of the right. He, however, did not trouble himself about the matter, nor seek advice at the time. He noticed that the vision gradually became worse, and so at last he came to see me to inquire if anything could be done for it.

Previous History.—The patient said that he never had any illness in his life, except that 15 years ago he was laid up for three weeks, after falling over a cliff one dark night when on coastguard duty. He served 10 years in China. No history of syphilis could be obtained. He was always a temperate man.

General Condition.—Patient a stout man, but said that he had lately lost flesh considerably.

Chest emphysematous. Costal angle wide. Breathing abdominal.

Pulse 84. About every five or six beats there was a slight irregularity, and occasionally an intermission of one beat. Artery large, full between the beats, and difficult to compress. Not tortuous.

Temporal arteries tortuous, uniformly large and hard.

Heart: First sound rather short, aortic second sound accentuated. No murmurs. Emphysema masked the size of heart.

Urine: No trace of albumin was found.

Condition of Eyes.—R. V. = 6/181, $\bar{c}$ + 2.5 D. sph. = 6/9; $\bar{c}$ + 5.5 D. sph. = J 1. at 10".

L. V. = shadows only.

There was outwardly no difference between the appearance of the two eyes. The tension of each was normal. Both corneæ were clear, there was no circumcorneal injection, the anterior chambers were of normal depth, the irides were bright and of the same colour, the pupils of ordinary size and equal, and both reacted to light and accommodation. The reaction of the left one, however, was somewhat sluggish as compared with that of the right.

Both lenses were transparent.

With the ophthalmoscope nothing abnormal was found in the right eye.

In the left the vitreous was seen to be fluid and to contain many fine floating opacities, which caused considerable obscuration of the fundus. The latter was of a uniform greyish-red colour; the whole of the vessels were minutely contracted and thread-like, with the exception of the superior temporal vein, which was much distended. There was no difference between the colour of the macula and that of surrounding parts. The disc was not cupped, but was pale and its edges indistinct.

Embolism of the central artery of the retina was diagnosed. A few drops of a 1 per cent. solution of homatropine were instilled, in order to make a more thorough examination. No increase of pain was noticed at the time, but before the patient was sent away, a couple of drops of a 0.5 per cent. solution of eserine were instilled for the purpose of counteracting the effect of the homatropine.

Simple fomentations of boracic acid lotion were ordered, and the patient told to come again in a week's time.

Four days later he returned, saying that the pain had been much worse, and had prevented him from sleeping, and on inquiry I ascertained that he had vomited on one or two occasions. Still, when asked about it, he insisted that the pain was "not very bad, not more than he could stand," and said he came to show me his eye because his doctor "did not like the look of it."

He described the pain still as of a pricking character, and said it extended over the left brow, temple, and cheek.

There was diffuse subconjunctival ecchymosis, some slight haze of cornea and aqueous humour, a moderately dilated pupil, a somewhat shallowed anterior chamber, and a decided increase of intra-ocular tension. He could still see shadows with the left eye. The right field of vision was normal; the left could not be definitely taken, but it appeared to be only moderately and uniformly contracted.

On finding matters in this condition, I instilled some more eserine, and advised the patient to have an iridectomy performed at once. He said, however, that he would prefer to talk it over with his wife first, and would come and let me know his decision on the following day. In the meantime I prescribed—

℞ Eserin. sulph. gr. ij,
Cocain. hydrochlor. gr. V,
Aq. distil ad. ℥j,
M. Ft. Gutt. To be used 3 times a day.

Three days later, in the afternoon, he came again and said that he would have the operation performed, although the drops had given him considerable relief.

On the next morning, therefore, as the root of the iris did not seem to be pressed against the cornea more at any one part than another, I did an iridectomy upwards, removing about one-fourth of the circumference of the iris by the combined cutting and tearing method. For this purpose chloroform was administered, and the conjunctival sac washed out with warm boracic acid lotion. There was rather a severe attack of retching and coughing during the process of recovery from the anæsthetic.

On the following day everything was quiet, and the patient said he had had the best night that he had experienced for a fortnight, and that there was no pain at all. Simple antiseptic dressings were applied, and the patient kept in bed for the next week, when all was healed up and quite quiet, the intra-ocular tension being normal. Vision was "shadows" as before.

He was then allowed to get up, and two days afterwards I found that unfortunately the pain and tension had returned, and there was some hyphæma. Paracentesis of the anterior chamber was at once performed, and again all went well, and the patient returned to his home.

During the next three weeks, however, attacks of pain with increased tension and hyphæma kept recurring, which were only partially relieved by paracentesis, &c.; and as the vision was then reduced to merely perception of light, and the patient wished to have it done, the eye was removed on March 28 by Mr. Tillinghast Atwool, of Torquay.

Patient took the anæsthetic badly, and there was very severe hæmorrhage both at the time of the operation and on several occasions during the following six days. There was also extensive ecchymosis of the whole left side of the face.

Mr. Atwool very kindly sent me the eye in a 10 per cent. solution of formol, and reports that the patient has since been quite well. The vision in the right eye is precisely the same as before; the field is normal, and the only abnormality in the fundus is that there are two small red spots, apparently hæmorrhages, just below the inferior temporal vein.

Pathological Condition.—The eye was normal in shape and size. T+. An antero-posterior vertical section was made, passing behind between the entrance of the optic nerve and the yellow spot. The optic nerve and the retina of the yellow spot region were removed for separate microscopic examination.

Macroscopic Examination.—The operation wound at the upper sclerocorneal junction was perfectly healed, the iris not being involved in any part. There were one or two scars of paracentesis wounds in the lower part of the cornea. The rest of the cornea was clear. The anterior chamber was moderately deep. The lens was *in situ*, and transparent. The four arteries emerging from the disc presented a very striking appearance, looking like strands of shiny white cotton, and seemed absolutely bloodless. The vitreous, which was fluid, escaped during the process of thawing the specimen, which had been frozen for the purpose of making the hemisection. It contained a little blood in the lower part. The retina was *in situ*.

Microscopic Examination.—The cornea was normal, except that there was slight swelling of some of the cells of the surface epithelium. The scar at the upper sclero-corneal junction was well healed; one in the lower part of the cornea contained some red blood corpuscles.

The anterior chamber, though fairly deep, had its angles

partially occluded all round by adhesion of a small portion of the root of the iris to the cornea; the spaces of Fontana were not, however, completely blocked, as the adhesion did not extend the whole length of the fibres of the ligamentum pectinatum. There was a little blood *débris* in the lower angle.



FIG. 1.—The occupation of some of the spaces of Fontana by deeply staining leucocytes is shown by the dark mass in the angle.

The iris was excessively thinned at the part where adherent, and at the site of the iridectomy it had been torn through at this thin part instead of at its extreme root, as had been intended. At the edges of the coloboma it was more adherent to the cornea than elsewhere. There was no ectropion of uveal pigment.

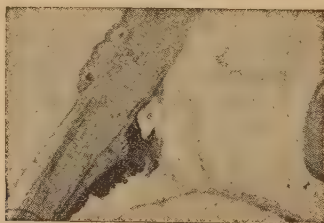


FIG. 2.—Section of irido-corneal angle at the site of the iridectomy.

The ciliary body below was the seat of a large hæmorrhage between the muscle and the pigment layer. There was no manifest abnormality in the choroid.

The whole retina was much atrophied, but had not lost the differentiation of its layers. There was considerable distension of its lymph spaces, evidently from œdema, most marked between the two nuclear layers. At the yellow spot region,

however, there was a small area in which there was little or no œdema, and at the macula itself the small space between the two nuclear layers was filled by a granular material, with no lymph channels in its substance. The retinal arteries had immensely thickened walls and a correspondingly diminished lumen. The thickening did not appear to be limited to the intima, but the media and adventitia were also affected. In the lumen were several large irregular cells with well-stained nuclei, but there was no blood. Some of the retinal veins contained blood, others were empty.

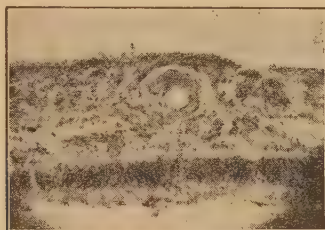


FIG. 3.—Section of retina showing great thickening of the walls of an artery.

The optic disc was not cupped, except in a small degree at the centre, which was probably physiological. It was not swollen. The general structure of the optic nerve was normal, but on examining sections involving the vessels it was seen that the lumen of the central artery was occupied by a mass of organised material, whose constituent fibres were arranged in a

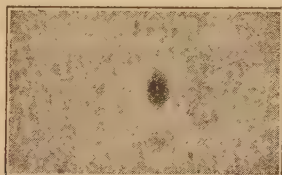


FIG. 4.—The occluded artery is below, the engorged vein above. (This figure very inadequately represents the appearance of the section.)

regular concentric manner. This mass extended backwards as far as the cut end of the nerve (3 mm.), and forwards appeared

to reach nearly to the disc, the posterior part, however, seemed to be much more dense than the anterior. In one or two of the sections small vessels containing red blood corpuscles could be seen in the substance of the plug. The mass did not entirely occlude the artery, a small space being left all round at the periphery; but as there was no sign of blood here it was probably formed by shrinkage in the process of hardening the specimen.

The central vein and its tributaries in the nerve were distended with blood, and a great number of leucocytes could be seen outside the vessel, having evidently escaped by diapedesis.

Remarks.—This case has seemed to me to be worthy of record, not merely on account of the unusual ocular lesions, but also because it is illustrative of the great help to be obtained in the diagnosis of some general diseases from the examination of the eyes.

It is very rarely that one has an opportunity of examining an eye removed during life, in which obstruction of the central artery of the retina has been diagnosed. Mr. Nettleship, in describing a case of his,* says he had only been able to find records of three such cases.

In this case the question arises, "What relation did the glaucoma bear to the other lesion?" I am inclined to think little or none, for it is by no means a common sequela in cases where there has been blocking of the central artery; though it is certainly remarkable that in Mr. Nettleship's case glaucoma also followed, and was the reason for excision.

My patient was over middle age, and was a hypermetrope, both conditions predisposing to glaucoma, and from the condition of the root of the iris there had probably been some trouble in the escape of the intra-ocular fluid, with temporary rise of tension on previous occasions. It is quite likely that this may have occurred and no notice have been taken of the circumstance, as the patient

* Ophth. Hosp. Rep., vol. viii, p. 9.

was the kind of man who would not complain of any pain unless it were very severe; for even when he had acute glaucoma, with vomiting, &c., he insisted that the pain was "not more than he could stand." Again, he said that the left eye had for some time not been so good as the right, and attributed it to the fact that the latter got more exercise from using a telescope so much in his occupation.

Then, the instillation of homatropine for the purpose of examination, in an eye in this condition of unstable equilibrium, although followed by eserine, was just sufficient to upset the balance of secretion and removal of fluid, and induce an attack of acute glaucoma.

I do not think that the passive congestion which would result from thrombosis of the artery, although sufficient to cause œdema of the retina, could suffice of itself to start the glaucoma process.

Mr. Nettleship's patient was also a man over middle age, but it is not stated whether or not he was hypermetropic, and he also had a mydriatic administered for purposes of examination. As it was in the days before either homatropine or cocaine was known, atropine was the drug used, and that necessarily would have had a much more powerful tendency to produce increased intra-ocular tension.

The reasons I have for considering the case to be one of thrombosis rather than embolism are:—

1. The patient had no evidence of valvular lesion of the heart.
2. The changes in the arterial walls were not those of atheroma, but were more of the nature of arteritis obliterans, due to renal disease.
3. The blood-flow through the arteries would, on account of the irregular heart and inelastic vessels, be variable, a circumstance that would be favourable to thrombosis.

4. The gradual progression of the case ; for though the onset was sudden, the loss of vision was not at its maximum at first, but gradually got worse. The fact that there was perception of light even to the end was probably due to the establishment of some little collateral circulation, through the feeble anastomoses with the choroidal arteries near the disc, and at the ora serrata. Still, recovery of perception of light after a time is not uncommon in cases of embolism, even though it may have been absolutely lost at first.

5. The obstruction was least marked at the bifurcation of the artery at the disc. Certainly, however, the thrombus might possibly have been secondary to an embolus at the origin of the central artery of retina from the ophthalmic, the other branches of the latter vessel receiving blood through their anastomoses. This manifestly could not be ascertained in this case.

6. The concentric arrangement of the constituents of the plug ; as though its formation had occurred after the manner of ante-mortem clots in the heart and large vessels.

There was no sign in this patient of thrombosis of the internal carotid, or any cerebral artery, which Dr. Gowers remarks is a frequent concomitant of thrombosis in this region.*

Mr. Priestley Smith considers that many of the cases diagnosed as embolism of the central artery of retina are really cases of thrombosis, the ophthalmoscopic appearances being identical in both conditions.†

Latest Report from Mr. Atwool, April 23, 1895.

“There are now several small hæmorrhages in the lower part of the right fundus, and a small patch of exudation on the inner side of the disc. Disc not swollen, but its outline soft and indistinct. Patient’s general condition

* Med. Ophthalmoscopy, Gowers. Ed. III, 1890.

† *Ibid.*

seems to be getting worse, the heart is more irregular, and on examination of the urine it is found to contain a considerable amount of albumin, the specific gravity being 1016."

It appears probable, therefore, that the kidneys are failing in their function, either from an increase in the renal lesion, or from heart failure.

ON THE RESULTS OBTAINED AFTER THE EXTRACTION OF
FOREIGN BODIES FROM THE EYE WITH THE ELECTRO-
MAGNET.

By H. V. MCKENZIE, *Junior House Surgeon, R.L.O.H.*

It has seemed to me that a paper on this subject might serve some useful purpose, chiefly because the measure of success which one may expect in the treatment of such cases is not fully appreciated. With the object of clearing up the difficulty which one experiences in giving a prognosis, I have collected a series of cases, in the hope that the results here obtained may be of assistance. Although the paper has been written for this main purpose, certain other interesting facts have been brought out, to which attention will be drawn.

The cases have been collected from the in-patient records of this hospital, and extend over a period of six years, viz., 1889—1894. Great care has been taken to include only those cases in which a piece of steel or iron was actually present in the eye; all doubtful cases have been ignored. The nature of the foreign body has been established either by its successful removal with the electro-magnet, or, in the few cases in which the latter failed, by the presence of the piece of metal in the globe after enucleation.

The number of cases which have occurred in the above-mentioned period has been 50; in 10 of these the cornea or cornea and iris were wounded, in 12 the crystalline lens was wounded without being penetrated, and in the remaining 28 the piece of metal had forced its way into the vitreous chamber with or without injury of the lens. We thus see that the commonest part in which the foreign body becomes embedded is the vitreous, in which situation it is more than twice as frequent as in any other, and, as we shall see later, this particular form of injury is by far the most disastrous.

The following is a table of the cases:—

	Cases.	Per cent.
With wound of cornea and iris	10	20
" " lens.....	12	24
" " vitreous	28	56

Of these 50 cases the eye was saved in 30, or a percentage of 60; lost in 20, or a percentage of 40. On a closer inspection of the cases, however, one finds that these figures are misleading; they are too unfavourable for certain injuries, *e.g.*, injuries to cornea and lens, and much too favourable for those cases in which the foreign body was in the vitreous. This discrepancy is due to the fact that the situation of the chip of metal is the most important factor in determining whether surgical procedure will meet with success. It would thus seem that a more reliable criterion would be arrived at if one subdivided the cases into three groups, according as to whether the foreign body were in the cornea or iris, lens, or vitreous chamber.

I. Cases in which the Cornea and Iris were alone wounded, the latter not being penetrated.

Ten cases (Nos. 1—10) fall into this group for consideration; their treatment is so eminently satisfactory that a discussion of them need not detain us. It might be well to mention that where the cornea alone was injured the foreign body had nevertheless penetrated so deeply into its substance that there was grave fear of perforation, with its attendant consequences, if the ordinary routine treatment of removal with a spud or needle had been resorted to; hence their inclusion in this series. The piece of metal was successfully removed with the electro-magnet in every case without resulting impairment of vision, or, in other words, the percentage of successes was 100.

II. *Cases in which the Lens was injured but not penetrated.*

The piece of metal must have struck the eye with greater force as compared with the injuries in the former group, and the damage to the ocular structures have necessarily been more severe. One would thus expect that any operative procedure would not meet with the same proportionate amount of success; this is fully borne out by these results. Instead of all the cases being successful, only about three-fourths can be classed as such, and even among these there is a considerable number with distinctly defective vision.

Twelve cases (Nos. 11—22) are to be considered. All were complicated by the formation of traumatic cataract; in some the foreign body was lying in front of the lens, having wounded its anterior capsule; in others, again, it was in the substance of the lens. The terminal of the electro-magnet failed to remove the piece of metal in one case (No. 14), which was ultimately lost; the remaining 11 were saved. There is unfortunately no note of vision in three of the cases; accordingly we are reduced to nine cases from which to calculate results. Of these, in three cases the vision was more than 6/18 and J. 1; in four others the vision was more than 6/60; in one the vision was reduced to the perception of light only; and the eye was removed in one case.

	Cases.	Per cent.
Vision more than 6/18 and J. 1	3	33.33
„ „ 6/60, but less than 6/18	4	44.44
„ P. L.	1	11.11
Lost	1	11.11
	9	99.99

If one consider that persons whose vision was 6/60 or more after the operation had been successfully treated,

there are seven such cases to record, or a percentage of 77·77. Unsuccessful and lost cases each furnish one example, or a percentage of 11·11.

III. *Cases in which the Foreign Body was in the Vitreous Chamber.*

If the piece of metal is in the vitreous, the general consensus of opinion that the prognosis is very grave is strengthened by the results in the following cases. When one considers the severity of the damage to the ocular tissues caused by the foreign body in its path to the vitreous chamber, and the fresh injury which must inevitably follow the introduction of the terminal of the electro-magnet, however skilful its manipulation may be, the wonder is that any eye should be saved and possess useful vision after removal of the chip of steel. And yet this is not all one has to contend with. The vitreous humour constitutes such a perfect medium for the growth of micro-organisms that suppuration often rapidly supervenes on the injury, and even should the foreign body be not sufficiently septic to start this, the prolapse of vitreous which so frequently accompanies the injury may be, and often is, the starting point of supuration by direct infection from the conjunctival sac. Another factor, and it is no small one, which materially influences our results is that the electro-magnet is not always successful in withdrawing the foreign body. Indeed, it failed to remove the offending particle in quite a large proportion of the cases, viz., eight, or a percentage of 28·57.

The number of successful cases in this group does not compare favourably with those in the preceding, in which former three-fourths of them could be safely classed as successful, whereas in this group only one-fourth can be said to fall into that category.

An examination of the 28 cases elicits the fact that in 20 the eye was lost, and in eight it was saved.

The lost eyes are accounted for in the following manner. Nineteen of them were enucleated, and one though not excised had no perception of light. Of the former number, eight were removed as the electro-magnet had failed to withdraw the foreign body; eight were removed on account of inflammatory changes involving the uveal tract, in four of which there were distinct signs of commencing suppuration. Two were removed for signs of sympathetic irritation in the opposite eye, and one was removed immediately the piece of metal was withdrawn, owing to the extensive disorganisation of the globe which had ensued.

The remaining cases—eight in number—do not, unfortunately, all come up to the standard of what may be considered successful; in only three of the cases was the vision which was ultimately obtained useful. Of one there is no note of vision. There remain seven cases from which to draw our conclusions. Two of these retained vision equal to or more than 6/12 and J. 1, and in one the vision was 6/60. In two others the patient could only count fingers, and in the remaining two the vision was reduced to perception of light.

I have tabulated the cases in this group as follows:—

	Cases.	Per cent.
V. = 6/6 and J. 1 (1), 6/12 and J. 1 (1). Total =	2	7·407
V. = 6/60	1	3·703
V. = Fingers at 5 ft. (1), at 3 ft. (1)	2	7·407
V. = P. L. (one had old choroidal atrophy)	2	7·407
	7	25·924

On taking the standard of success to be the same as in preceding group we have:—

	Cases.	Per cent.
Successful	3	11·11
Unsuccessful	4	14·81
Lost	20	74·07
	27	99·99

In conclusion I have to thank the Surgical Staff of this Hospital for their kindness in allowing me to make use of these cases.

No. of case.	No. in Hospital Register.	Name.	Sex.	Age.	Time that elapsed between accident and admission.	Nature of accident.
1	458	T. D.	M.	21	3 weeks	F. B. deeply embedded in cornea ..
2	1050	J. B.	"	30	1 day	Small wound in lower third of cornea, and piece of steel sticking in lower part of iris, lens uninjured
3	1348	E. S.	"	24	4 days	F. B. deeply embedded in cornea ..
4	1014	G. G.	"	16	1 day	Small piece of steel in iris, corneal wound healed
5	1579	E. W.	"	18	5 days	F. B. deeply embedded in cornea ..
6	1270	Y. Q.	"	20	10 days	Iris discoloured with rust-coloured plaque lying on it, lens uninjured
7	1190	A. J.	"	40	2 "	On the posterior surface of the cornea is entangled a F. B., to which pupillary margin of iris is attached
8	1638	J. K.	"	34	2 "	F. B. embedded in iris. Hypopyon
9	943	A. T.	"	20	1 day	Small yellow mass on iris at outer side, in which a F. B. is seen. Corneal wound healed, lens clear
10	1518	W. N.	"	20	Same day	F. B. embedded in iris. Lens uninjured
11	312	J. L.	"	21	12 months	Lens quite opaque, embedded in its anterior capsule a piece of metal is seen. V. = fingers at 6'
12	223	J. D.	"	40	6 weeks	Lens opacity anterior and posterior chiefly, with chip of metal seen in anterior cortex of lens. Iris uninjured. V. = 6/60. T. full
13	477	F. C.	"	33	1 day	F. B. in anterior capsule of lens, which is wounded and becoming opaque

Operation.	Secondary operations.	Immediate vision.	Remote vision.	Remarks.
Magnet applied directly over it, and piece of steel readily withdrawn	..	6/6 J. 1		
Terminal of magnet introduced into corneal wound, and F. B. removed	..	6/6 J. 1		
Magnet applied directly over it, &c. A. C. was opened	..	6/60 J. 1. Refraction myopic	..	An attempt with needle had failed.
Corneal incision and removal.	..	" Good "		
Broad needle introduced into A. C. and placed behind F. B. for support, then removal with magnet	..	6/12 J. 1		
Corneal incision over seat of F. B., &c.	Division of anterior synechia	6/12 J. 1		
" "	" "	6/6 J. 1		
Corneal incision below, &c. Hypopyon evacuated	..	6/9 J. 1		
Corneal incision, &c.	..	6/12 J. 1		
Wound enlarged, &c.	..	6/18 J. 4. Hyp. ast.		
Iridectomy upwards, removal of F. B. with magnet, then extraction	..	..	6/24	Some capsule present.
Corneal incision and removal of F. B. readily	Evacuation of lens matter	6/24 J. 6	..	Some capsule.
Removal of F. B. through wound.	Partial evacuation of lens matter	No note	..	Much lens matter still present.

No. of case.	No. in Hospital Register.	Name.	Sex.	Age.	Time that elapsed between accident and admission.	Nature of accident.
14	2266	F. O.	M.	24	1 day	Cornea and iris perforated, lens wounded
15	241	A. S.	"	23	Same day	Lens opaque, and lying transversely in it a metallic body
16	1867	J. P.	"	17	1 month.....	Lens partially opaque, and F. B. in it. V. = 6/36.
17	808	C. H.	"	24	2 days	Lens swelling and becoming opaque no F. B. seen
18	1320	W. J.	"	35	2 "	Lens swollen, opaque, and bulging iris forwards. F. B. not seen. No reflex. V. = P. L. T - .
19	463	G. H.	"	21	Same day.....	Large F. B. lying in lens
20	722	T. R.	"	50	4 years.....	Lens quite opaque, lying in front of it is a piece of metal. V. = hand-movement. Th.
21	888	T. B.	"	28	3 days	Cornea and iris perforated, lens becoming opaque, F. B. not seen. Small hypopyon
22	1192	T. P.	"	34	6 days	Lens quite opaque. A. C. full of swollen lens matter. F. B. in lens. V. = P. L. Th.
23	357	G. S.	"	23	1 day	Cornea, iris, and lens wounded. No F. B. seen
24	361	A. O.	"	35	Same day.....	Cornea, iris, and lens injured, track through lens. No F. B. seen
25	168	E. W.	"	31	"	Lens, &c., injured. F. B. seen in vitreous. V. = fingers. T. -

Operation.	Secondary operations.	Immediate vision.	Remote vision.	Remarks.
Magnet unsuccessful	Excision	..	..	F. B. in A. C.
Wound enlarged and F. B. removed	Evacuation of lens matter	..	5/60 J. 18	Capsule all over.
Corneal incision, &c.	1 Extraction. 2 Division of capsular synechia	No note		
Corneal incision and removal of F. B. from lens	1 Needling. 2 Lens evacuated	6/60 J. 16	..	Some capsule.
Corneal incision and removal of F. B. from lens. Curette evacuation	Paracentesis performed three times	..	6/9 J. 1	
Removal of F. B. through wound, some lens matter and vitreous escaped	Iridectomy and curette evacuation	Hand-movement	..	Still much lens matter present.
Iridectomy, removal of F. B., then scoop extraction of shrunken lens. No vitreous lost	..	6/18 J. 1	..	Fine capsule, vitreous opacities.
Iridectomy, removal of F. B., evacuation of lens matter	..	No note		
Removal of F. B. through enlarged wound. Curette evacuation. Some vitreous lost	..	No note	6/9 J. 1	Remote V. taken 11 months after operation. Anterior synechia otherwise normal.
Extraction with iridectomy, then terminal of magnet pushed into vitreous and F. B. removed. Some vitreous lost	Excision.....	..	..	Eye was suppurating.
Removal of F. B. from vitreous through original wound. Some vitreous lost	..	..	No P.L.	Six months after operation, eye shrunken, &c.
Iridectomy. Scoop extraction. Magnet pushed into vitreous with no result	Excision.....	..	..	F. B. in vitreous.

No of case.	No. in Hospital Register.	Name.	Sex.	Age.	Time that elapsed between accident and admission.	Nature of accident.
26	1383	J. S.	M.	32	Same day.....	Cornea and lens injured. F. B. not seen. V. = hand
27	1127	H. A.	"	21	4 months.....	Lens quite opaque. V. = hand-movement. T. —
28	1789	R. G.	"	36	Same day.....	Cornea, iris, and lens wounded. No F. B. seen
29	352	F. M.	"	38	" ... :	Small hole in cornea, iris, and posterior capsule of lens. F. B. seen downwards? V. = 6/6. T. —
30	1763	S. W.	"	25	"	Large perforation in sclerotic on inner side of globe, with large F. B. in vitreous
31	864	H. F.	"	50	"	Cornea and lens injured. Vitreous prolapsing. No F. B. seen. V. = P. L. T. — 3
32	1045	S. J.	"	40	8 days	Corneal scar, wound of iris, opaque track through lens. Vitreous opacities. V = 6/24. F. B. not seen
33	1188	G. S.	"	17	Same day.....	Wound of cornea and iris. Lens becoming opaque. Vitreous opacities. No F. B. seen. V = fingers at 7'. T — 3.
34	207	G. B.	"	39	"	Wound of cornea, iris, and vitreous prolapse, lens has escaped?
35	1232	H. M.	"	17	"	Penetrating wound of sclerotic, vitreous presenting, iris and lens uninjured. No F. B. seen. V = 6/12. T — 1.

Operation.	Secondary operations.	Immediate vision.	Remote vision.	Remarks.
Magnet introduced through wound, and F. B. removed from vitreous. A good deal of lens matter and some vitreous escaped	Excision.....	..	..	Eye was suppurating.
Extraction with iridectomy. Magnet pushed into vitreous with no result	„	..	..	F. B. was lying behind ciliary body.
Removal through wound of a large F. B. from vitreous. Some lens matter and vitreous escaped	„	..	..	Iridocyclitis.
Incision to outer side of inferior rectus tendon. Terminal of magnet introduced, and F. B. removed from vitreous. (No note as to whether vitreous was lost.)	..	6/12	6/12 J. 1	Remote V. was taken 11 months after operation. Opacity in lens capsule in <i>statu quo</i> .
Magnet removed F. B. Then excision	..	..	..	Globe quite disorganised.
Removal of large F. B. through original wound from vitreous. Some vitreous lost	Excision.....	..	..	Iridocyclitis.
Incision on outer side of inferior rectus tendon, magnet introduced, and F. B. removed; very little vitreous lost	1 Needling five months later. 2 Needling three months later. (Projection not good below)	6/60	P. L.	
Same as preceding; no vitreous lost	Excision.....	..	..	Eye was suppurating.
Removal of large F. B. by enlarging wound. Iridectomy. Some vitreous lost	..	P. L.	..	Old choroidal changes in fundus.
Magnet introduced on three separate occasions, with no result	Excision.....	..	..	Suppuration. F. B. was lying behind ciliary body.

No. of case.	No. in Hospital Register.	Name.	Sex.	Age.	Time that elapsed between accident and admission.	Nature of accident.
36	1472	E. L.	F.	15	2 days	Wound of cornea, iris, and lens Hypopyon.
37	1940	A. M.	M.	20	Same day.....	Wound of cornea, iris, and lens. No F. B. seen
38	167	A. R.	"	17	"	Wound of cornea and sclerotic. Iris and vitreous prolapse. Lens?
39	489	E. F.	"	21	"	Wound of sclerotic just outside ciliary region
40	625	W. W.	"	20	"	Wound of sclerotic, lens uninjured. Large metallic body seen in lower part of fundus
41	1728	H. C.	"	28	"	Wound of cornea, iris, and lens. No F. B. seen
42	1577	A. P.	"	26	"	Wound of cornea and lens.....
43	1726	W. B.	"	21	"	Wound of cornea, iris, and lens. F. B. not seen.
44	806	A. M.	"	27	"	Wound of cornea and iris. Lens quite opaque. V. = P. L. T - 2
45	730	G. T.	"	46	7 days	Wound of cornea and lens. F. B. seen attached to posterior capsule of lens and reaching into vitreous. V. = fingers at 3'. T -
46	717	W. S.	"	25	11 days	Wound of cornea and lens. No F. B. seen
47	1116	A. G.	"	34	Same day.....	Wound of sclerotic far back. Vitreous presenting. F. B. not seen

Operation.	Secondary operations.	Immediate vision.	Remote vision.	Remarks.
Paracentesis and evacuation of hypopyon. Removal of large piece of steel from vitreous with difficulty. Some vitreous lost	Excision.....	..	..	Eye was shrinking.
Iridectomy, and magnet introduced without result	„	..	..	F. B. in vitreous.
Iridectomy. Magnet introduced on two successive days. No result	„	..	..	Suppuration. F. B. in vitreous.
Removal of large F. B. from vitreous through wound. Little vitreous lost	..	Fingers at 5'	..	Vitreous opacities, vacuoles in lens.
Original wound enlarged and F. B. removed through it; some vitreous lost	..	6/60	..	Vitreous opacities. Fundus normal.
Magnet introduced through wound. No result	Excision	..	..	Suppuration. F. B. was lying at back of ciliary body.
Magnet introduced through wound. No result	„	..	..	F. B. in vitreous.
Removal of large F. B. from vitreous through wound. Some lens matter and vitreous escaped	1 Iridectomy. 2 Excision	..	..	Eye was shrinking.
Iridectomy. Scoop extraction. Removal of F. B. from vitreous. Some vitreous lost	..	No note	..	"Has made good recovery."
Iridectomy. Terminal of magnet introduced behind lens and F. B. removed. Scoop extraction. About one-fifth of vitreous lost	Needling (four months later)	Fingers at 2'	6/6 all J. 1 fluently	
Corneal incision and removal of F. B. from vitreous with difficulty. Some vitreous lost	1 Iridectomy. 2 Excision	..	..	Sympathetic irritation.
Magnet introduced through wound. No result. Second attempt some days later with magnet successful, some vitreous lost	..	Fingers at 3'		

No. of case.	No. in Hospital Register.	Name.	Sex.	Age.	Time that elapsed between accident and admission.	Nature of accident.
48	1264	H. F.	M.	20	Same day	Wound of cornea and lens. No F. B. seen
49	69	G. D.	„	27	1 day	Wound of cornea, track through lens. No F. B. seen
50	166	J. H.	„	47	„	Wound of cornea, iris, and lens. Most of lens has escaped, vitreous presenting

Operation.	Secondary operations.	Immediate vision.	Remote vision.	Remarks.
Magnet introduced through wound. No result. Some days later magnet successful. Iridectomy. Some vitreous lost	Excision	..	..	Sympathetic irritation.
Magnet introduced. No result....	„	..	..	Suppuration. F. B. lying behind ciliary body.
Magnet introduced and large F. B. removed from vitreous	„	..	..	Suppuration.

